

## F&O Building Emergency Procedure

# BEP- 325/RPL

### *Building Emergency Procedure for Radiochemical Processing Laboratory (RPL)*

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**Procedure Owner:** CA Kooiker  
**Author:** CA Kooiker

**Approval:** RPL Manager, HF Kerschner

**Concurrence:** Building Manager, CA Kooiker  
Emergency Preparedness, TL Bettendorf  
Waste Operations Manager, TL VanArsdale  
Worker Safety & Health, WE Crouse

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## 1.0 General Information

The Radiochemical Processing Laboratory (RPL)/325 Building Emergency Procedure (BEP) has been designed to provide information necessary to minimize risks to personnel, facilities, programs, and the environment in the event of an emergency. This procedure applies to all resident staff, visitors, vendors, and contractor/subcontractor personnel. If an event is of a security nature (bomb threat, hostage situation, or other act of violence), security procedures may supersede this procedure and will be assessed on a case-by-case basis.

This facility contains both radioactive and hazardous materials in operations, storage, and handling. The RPL facility poses a possible significant hazard to adjacent facilities, personnel, programs, and the environment.

This BEP includes the contingency plans and emergency procedures for hazardous waste management activities as referenced by the Washington Administrative Code (WAC) [173-303-340, -350, and -360]. This plan must be implemented whenever an emergency threatens human health and the environment.

Emergencies may arise from, but are not limited to the following:

- Fire
- Explosion
- Loss of service systems
- A medical emergency
- Bomb threats
- Criticality
- Criminal activity
- Incidents at other facilities
- Natural hazards or natural forces
- Spill/release to the environment requiring assistance
- Hazardous materials release.

Expected responses are those actions, which are intended to minimize the effects of a situation while providing optimum protection to personnel. Expected responses include notification to the PNNL Operations Center, Building Manager (BM), Building Emergency Response Organization (BERO), and personnel in the facility. This procedure also provides plans for notifying personnel to take safe actions such as "Take Cover," "Evacuate," or other planned actions dictated by the event. The procedure provides for formal notification and reporting.

Other emergency response agencies available to assist the Building Emergency Director (BED) and Incident Commander from offsite are described in DOE/RL 94-02, Section 3.0 [WAC 173-303-350 (3)(d)].

The BED will provide BERO members BEP training annually. The BED and Alternate BEDs will receive annual training from the PNNL Emergency Preparedness office.

The policy of PNNL is to provide for the safety of its staff, contractor/subcontractor personnel, visitors, and members of the public in case of an emergency incident. PNNL line management

has the responsibility to execute this policy and to see that all staff understand their responsibilities and know the action to be taken in an emergency. Every staff member is responsible for using the appropriate safety instructions and procedures and to remain alert to unsafe conditions or acts while performing his or her job. All personnel are responsible for responding to emergency conditions to minimize adverse impacts.

In the event of an emergency condition in the facility, members of the RPL BERO will perform their duties as described in this procedure. Specific emergency actions for response to events will be applicable as specified in this BEP. Those BERO members whose assistance is needed to mitigate a lesser event will be notified by telephone or personal contact by the BED or delegate. Occupants of the facility who are not members of the BERO shall follow the standard PNNL Emergency Preparedness requirements at <https://hdi.pnl.gov/standard/83/8300t010.htm>.

The building fire alarm is the primary means of notification for an event that requires full activation of the BERO. Emergency telephone numbers are listed in Section 4.0.

This procedure will be reviewed at least annually and amended if necessary or whenever any of the following occurs [WAC-173-303-350 (5)]:

- The applicable regulations or the Hazardous Waste Treatment (HWTU's) permit is revised.
- The procedure fails in an emergency.
- The facility changes in a manner that materially increases or decreases the potential for fire, explosions, or release of hazardous waste or hazardous waste constituents, or in any way that changes the response necessary in an emergency.
- The emergency coordinating personnel list changes.
- The emergency equipment list changes.

### **1.1 Facility Name**

Name: Radiochemical Processing Laboratory (RPL), 325 Building

Address: Cypress St., 300 Area

Richland, WA 99352

EPA Generator Identification Number: **WA 7890008967**

### **1.2 Facility Location**

The RPL Building is in the southern portion of the 300 Area, east of the 329 Building.

### **1.3 Owner/Operator**

The RPL facility is owned/operated by DOE and co-operated by Pacific Northwest National Laboratory (PNNL). The RPL Manager is the senior line manager in the RPL and has overall responsibility for all aspects of operations in the RPL. The RPL Manager is part of the Nuclear Operations Division (NOD) within the Facilities & Operations (F&O) directorate. The RPL Building Manager reports directly to the RPL Manager and supports operations and maintenance in the facility. The RPL Building Manager is also the primary Building Emergency Director (BED).

#### **1.4 Facility Description**

The RPL, as referred to in this BEP, consists of the RPL Building, RPL Filter Building, and the East Storage Yard located east of the RPL Building.

The RPL Building houses laboratories and specialized facilities including general-purpose chemical laboratories, High-level Radiochemistry Facility (HLRF), Shielded Analytical Laboratory (SAL), fissionable material storage areas, and RPL Hazardous Waste Treatment Units (HWTUs). The general-purpose laboratories characterize fuel, single- and double-shell tank waste, environmental samples, fusion/tritium samples, and other wastes. The radiochemistry facility includes areas for glove boxes, hot cells, cask handling, storage, and isolation of isotopes for unique applications like medical use. Analytical laboratory operations are conducted on small amounts of highly radioactive materials such as samples of single-shell tank waste. The HWTU treats hazardous, mixed, low-level radioactive and transuranic waste.

The RPL Filter Building is located on the northwest corner of the main RPL structure and houses the final stage HEPA filters and the main exhaust fans.

The East Storage Yard is a fenced enclosure adjacent to the east side of the RPL Building and is designated as an outdoor Radioactive Material Area (RMA).

### 1.5 Hanford Site Emergency Sirens/Alarms

**Note:** Some signals may not be applicable to the building; however, they may be heard in other parts of the Hanford Site. In the event of “Take Cover” or “Evacuation” alarms, the BERO will respond to the RPL lunchroom/lobby area for BED direction.

SIGNAL	MEANING	ACTIONS
Slow Whoop followed by voice message	Fire	Vacate building; proceed to staging area.
Steady tone on whistle, klaxon horn, or siren	Area Evacuation	Vacate building; proceed to staging area  Personnel in vehicles shall proceed to the nearest occupied facility and report to the staging area supervisor (SAS).
Wavering siren or short blasts on whistle, klaxon horn, or siren.	Take cover (Shelter)	Proceed to shelter or stay indoors. Close all exterior doors, turn off all intake ventilation (only if it can be done safely), and notify manager of whereabouts.  Personnel in vehicles shall proceed to the nearest occupied facility and report to facility management.  Staff should refrain from eating and drinking during a take cover event if physically able, until an appropriate evaluation of the event can be made.
AH-OO-GAH horn (howler) or flashing blue light (in high noise areas)	Nuclear criticality	Run at least 100 feet from building; proceed to staging area, along a path that does not take you closer to the building.
Variable color (red, amber) light with ringing bell or whistle	Airborne Radioactivity or Area Radiation Monitor	Stop work activities; immediately exit the area; notify Radiological Control personnel.
Communicator Notification System (CNS), telephone call displayed from 375-2121	Emergency Communications	Lift receiver, say “ <b>HELLO</b> ,” listen to the message and follow the actions designated.
Telephone Notification System (TNS)	Emergency Communications	Lift receiver, say “ <b>HELLO</b> ,” listen to the message and follow the actions designated. (Note: this system is only applicable to facilities on the Hanford site (i.e., 300/600 Areas)

## **1.6 Coordination Activities with Local Emergency Responders**

Interfaces and coordination with offsite agencies are in the planning, preparedness, response, and recovery elements of the Hanford Emergency Management Program. DOE has developed and maintains agreements to formalize areas of understanding, cooperation, and support with offsite agencies. These agreements are applicable to all Hanford facilities, including the RPL. Summaries of these memoranda of agreement (MOA) are given in Table 3-1 of the *Hanford Emergency Management Plan* (DOE/RL 94-02).

## **1.7 Deviations from Technical Safety Requirements**

Emergency actions that depart from an approved TSR may be taken when no actions consistent with the TSRs are immediately apparent, and when these actions are needed to protect workers, the public, or the environment from imminent and significant harm.

Such actions shall be approved, as a minimum, by the RPL Building Manager, the RPL Manager, or the RPL Building Emergency Director. If emergency actions are taken, verbal notifications shall be made to the DOE-RL within two hours and by written reports to DOE Headquarters within 24 hours. [TSR AC 5.11]

## 2.0 Purpose of the Building Emergency Procedure

This procedure describes the processes and information necessary in the event of an emergency for the RPL BERO members to react to the emergency and to perform the following actions:

- Maximize safety, minimize risk to life, and provide prompt efficient treatment for injured persons.
- Provide all members of the BERO with an understanding of their roles and responsibilities in the event of an emergency.
- Minimize the effects on the health and safety of personnel, property, the environment, programs, and the public.
- Provide prompt internal and external notifications to the responsible authorities.

### 2.1 Distribution

At a minimum, controlled document copies of this BEP will be located at the following locations:

- BED emergency response bag
- RPL Power Operator Office (Room 900)
- Building Manager's file
- EP Program Office
- PNNL Operations Center
- Hanford Emergency Operations Center (Hanford Site facilities only)
- Management Support Group emergency response bag (LSB/2D55)
- Alternate Incident Command Post (350 Building room 161)

The RPL BEP may be viewed and/or printed at <https://facilities.pnl.gov/weblinks/BEP/325/BEP-325.pdf>. Copies of the BEP that are printed from this website are considered uncontrolled copies.

## 2.2 Acronyms

BED	Building Emergency Director
BEP	Building Emergency Procedure
BERO	Building Emergency Response Organization
BM	Building Manager
CAM	Continuous Air Monitor
CAS	Criticality Alarm System
CMS	Chemical Management System
CNS	Communicator Notification System
CSM	Cognizant Space Manager
DOE	Department of Energy
EAL	Emergency Action Level
EIP	Emergency Information Posting
EOC	Emergency Operations Center
EMSD	Environmental Management Services Department
EPA	Environmental Protection Agency
ESM	Electronic Storage Media
FOS	Facility Operations Specialist
FSR	Field Services Representative
HDI	How Do I
HFD	Hanford Fire Department
HLRF	High-Level Radiochemistry Facility
HWTU	Hazardous Waste Treatment Unit
IC	Incident Commander
ICP	Incident Command Post
IOPS	Integrated Operations System
LA/LAI	Limited Area Island
MIT	Map Information Tool
MSDS	Materials Safety Data Sheet
MSG	Management Support Group
ONC	Occurrence Notification Center
PIV	Post Indicator Valve
PNNL	Pacific Northwest National Laboratory

POC	Patrol Operations Center
PPE	Personnel Protective Equipment
RBA	Radiological Buffer Area
RCRA	Resource Conservation and Recovery Act
RPT	Radiological Protection Technologist
RPL	Radiochemical Processing Laboratory
SAL	Shielded Analytical Laboratory
SAS	Staging Area Supervisor
SME	Subject Matter Expert
TDP	Testing Designated Position
TNS	Telephone Notification System
TSD	Treatment, Storage, Disposal
WAC	Washington Administrative Code

### **2.3 Making Changes to the BEP**

PNNL-MA-110, *Emergency Management Plan* requires the BED to keep the Emergency Preparedness Office (EPO) advised of all changes in the BERO. This may be accomplished by memo to the EPO. The Hazardous Waste Treatment Unit (HWTU) Permit Coordinator and the RCRA Subject Matter Expert are also required to be notified before any changes are made to the BEP.

To request revisions to this procedure, refer to ADM-001, *Document Production & Distribution*.

### 3.0 Building Emergency Response Organization

#### 3.1 Emergency Telephone Numbers [WAC-173-303-350(3)(d)]

In the event of an emergency, specific detailed facility information may be needed. Knowledge of the building, utilities, and radiation hazards can be obtained from the staff listed in Table 14.a. Contact the PNNL Operations Center at 375-2400 if unable to contact these staff members using the numbers provided.

<b>Any Emergency – PNNL Single Point Contact: 375-2400</b>			
<b>Note:</b> With the appropriate approval, BED home addresses can be obtained at the PNNL Operations Center.			
<b>*Building Emergency Director (BED)</b> Curtis A. Kooiker	<b>Office:</b> 375-5352	<b>Home:</b> 628-9816	<b>Cell:</b> 528-8033
<b>*BED1</b> Daniel G. Wandler	<b>Office:</b> 375-5179	<b>Home:</b> 967-3493	<b>Cell:</b> 438-1053
<b>*BED2</b> (HF) Skip Kerschner	<b>Office:</b> 375-5345	<b>Home:</b> 396-0593	<b>Cell:</b> 554-4369
<b>*BED 3</b> Eric M Hanson	<b>Office:</b> 375-5351	<b>Home:</b> 713-0860	<b>Cell:</b> 713-0860
<b>Additional F&amp;O Management Contacts:</b> Utility Operations WTL, Robert McKinney Nuclear Operations WTL, Ed Arel Fire Protection Engineer: Dan Kester Safety & Health Rep: Mike Zabel F&O Mgt Support Group: Reed Sharp	Office: 375-7561 Office: 375-5398 Office: 371-7383 Office: 375-5013 Office: 371-7042	Pager: 85-9673	Cell: 539-4007 Cell: 521-6072 Cell: 308-9108 Cell: 378-4278
<b>EOC RPL Tech Reps:</b> Gertrude Patello Randy Thornhill Franciska Steen	Office: 375-5330 Office: 375-5220 Office: 375-5546		Cell: 851-6769
<b>Unique Program Laboratory Expertise</b> Waste Mgt – 90-Day: Zane Turner Low Level TSDs: Trevor VanArsdale Environmental Compliance Rep: John Holland	Office: 375-5088 Office: 375-3814 Office: 375-5002		Cell: 554-4359
<b>Alternate Incident Command Post:</b> 350 Bldg./Room 161	Office: 376-7565 Fax: 376-7965		
<b>Environmental Support Contact</b> ( <i>regulatory notifications only</i> )	375-2400 375-1648		
<b>Richland Fire Department</b>	375-2400		
<b>Medical and First Aid</b>	375-2400		
Hazardous Materials Response Team (Benton Franklin County Hazardous Material Response Team)	375-2400		
Ambulance Services	375-2400		
Police Department	375-2400		
PNNL Duty Officer(s) & PNNL Info Line	375-2154		
Off Normal Event Reporting	375-2400		

\* These are Testing Designated Positions (TDP) per HDI subject area Workplace Substance Abuse. Any changes to these positions require coordination through the Testing-Designated Position (TDP) Administrator.

**Note:** Doctors and/or nurses are available for emergency assistance during normal business hours at CSC Hanford Occupational Health Services (CSC HOHS) Also, CSC HOHS staff are trained to assist personnel potentially exposed or contaminated from hazardous and/or radioactive materials. They can be contacted through the PNNL SPC at 375-2400 or through the POC at 373-3800.

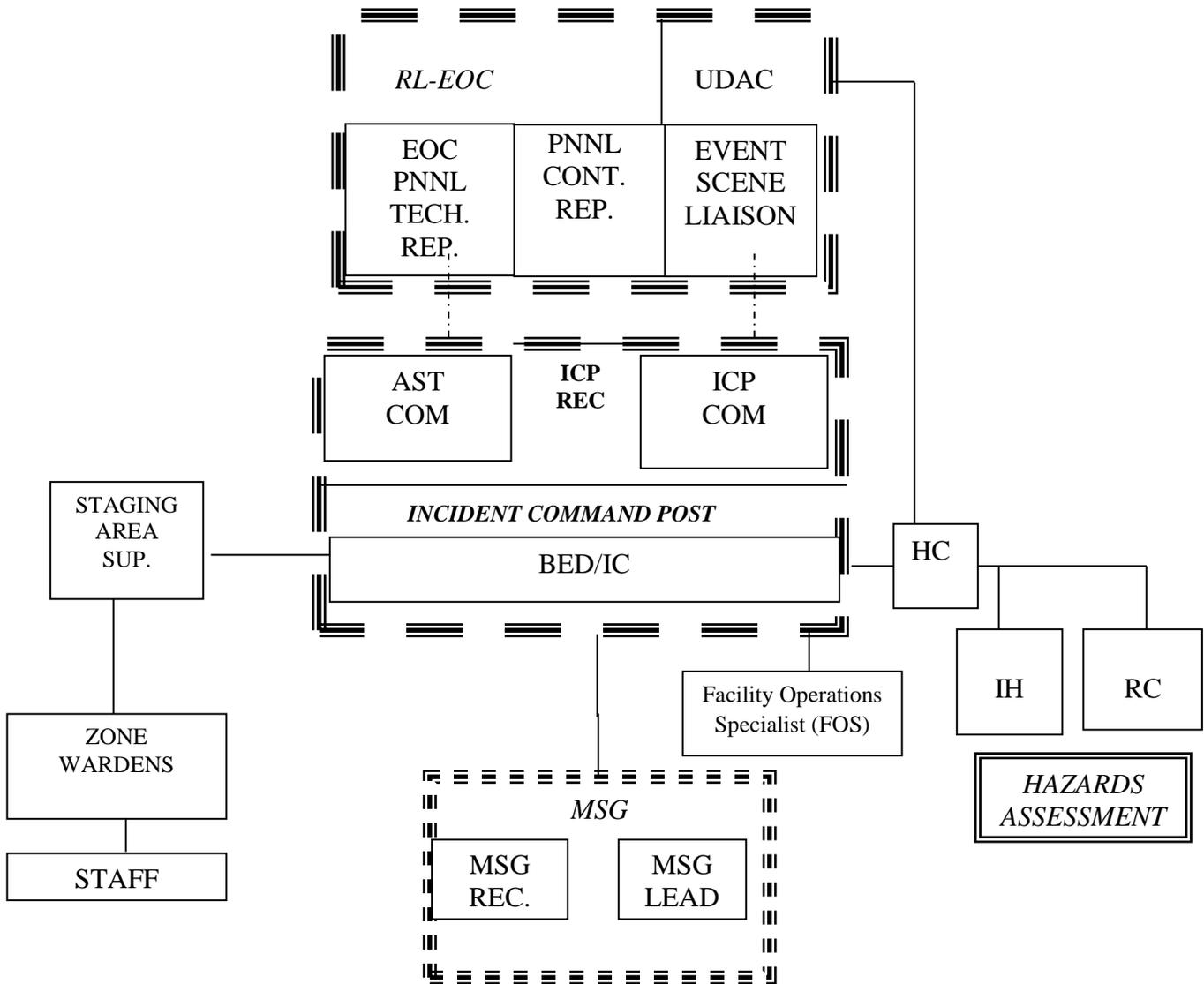
### 3.2 Building Emergency Response Organization (BERO)

The RPL BERO is an emergency response organization with clearly defined responsibilities. The BERO consists of pre-designated and trained individuals who have been assigned emergency response activities associated with the RPL. In addition, other positions in the RPL have responsibilities associated with emergency responses and preparedness.

<b>BERO Position</b>	<b>Primary Responder</b>	<b>1<sup>st</sup> Alternate</b>	<b>2<sup>nd</sup> Alternate</b>
<b>*ICP Communicator</b>	<b>Christopher Dryer</b> Work: 375-5468 Cell: 420-0533 Home: 628-9995	<b>Teresa Campbell</b> Work: 375-5119 Cell: 947-0332 Home: 943-6122	
<b>Assisting Communicator</b>	<b>Scott Colby</b> Work: 375-5350 Cell: 554-1780	<b>Kathy Rightmire</b> Work: 375-5346 Cell: 528-5954	
<b>Chemical Assessor</b>	<b>Mike Zabel</b> Work: 375-5013 Cell: N/A Home: 378-4278	<b>Doug Falk</b> Work: 371-7097 Cell: 308-9101 Home: 967-5063	
<b>ICP Hazards Communicator</b>	<b>Lorna Brown</b> Work: 375-5006 Cell: 948-2577 Home: N/A	<b>Terry Milham</b> Work: 375-5007 Cell: 539-3910 Home: 627-0200	<b>Forrest Bronson</b> Work: 371-7825 Cell: 371-7825 Home: N/A
<b>ICP Hazards Assessor (Radiological)</b>	<b>Jack Horne</b> Work: 375-5355 Cell: 308-2819 Home: 545-8990	<b>Bob Free</b> Work: 375-5597 Cell: 521-5916 Home: 627-0200	<b>Holly Black-Kania</b> Work: 371-7793 Cell: 430-0877 Home: NA
<b>ICP Recorder</b>	<b>Terri Mars</b> Work: 375-5661 Cell: 539-0722	<b>Kathy Rightmire</b> Work: 375-5346 Cell: 528-5954	
<b>*Facility Operations Specialist</b>	<b>Ed Arel</b> Work: 375-5398 Cell: 521-6072 Home: 734-1574	<b>John Logan</b> Work: 375-5168 Cell: 438-2079	<b>Rory Stewart</b> Work: 375-5178 Cell: N/A Home: 375-3162
<b>Staging Area Supervisor</b>	<b>Deborah Coffey</b> Work: 375-5011 Cell: 360-809-3091 Home: 543-7244	<b>Karl Pool</b> Work: 375-5246 Cell: 947-4777 Home: NA	<b>Teresa Schlotman</b> Work: 375-5323 Cell: NA Home: NA

\* These are Testing Designated Positions (TDP) per HDI subject area Workplace Substance Abuse. Any changes to these positions require coordination through the Testing-Designated Position (TDP) Administrator.

### 3.3 BERO – EOC Interface



<b>Legend</b>			
AST	Assisting	IH	Industrial Hygienist
BED	Building Emergency Director	MSG	Management Support Group
COM	Communicator	RC	Radiation Control
CONT	Contractor	REC	Recorder
EOC	Emergency Operations Center	REP	Representative
FOS	Facility Operations Specialist	SUP	Supervisor
HC	Hazards Communicator	UDAC	Unified Dose Assessment Center
IC	Incident Commander		
ICP	Incident Command Post		

### 3.4 Building Emergency Directors and Alternates

The BED has the responsibility for the welfare and safety of the building personnel and for directing efforts to control, evaluate, and terminate the event if the building is the site of an event. The BED performs duties of the Emergency Coordinator as prescribed under the WAC [WAC 173-303-360] until relieved by the Incident Commander, and has the authority to commit the resources needed to carry out the BEP.

**Note:** The BED/BED Alternates function is a Testing-Designated Position (TDP) in accordance with HDI Subject Area, *Workplace Substance Abuse*.

The BED manages facility operations and personnel during an emergency and is responsible for implementation of appropriate emergency procedures and their follow-up 24 hours a day. The BED has the authority to commit the resources necessary to carry out emergency plan activities. Activities include:

- Directing configuration control over facility systems and components at the event scene.
- Activating the BERO.
- Assessing the event scene.
- Allocating personnel to conduct facility-specific emergency response actions within the affected facility boundary (including acting as or delegating duty as the Facility Operations Specialist (FOS) and taking appropriate protective actions in response to events occurring in other onsite geographic areas or adjacent facilities).
- Categorizing the incident and notifying the PNNL Environmental Support Contact and/or the Occurrence Notification Center (ONC).
- Communicating with the Environmental Management Services Department.
- Initiating establishment of a Management Support Group (MSG).
- Reviewing the Emergency Action Levels (EAL) criteria (PNNL-EAL-RPL) and providing an initial EAL classification to the ONC.
- Directing implementation of initial preplanned area/site protective actions.
- Identifying an alternate staging area in the event of an extended building evacuation during inclement weather.
- Determining personnel accountability status within 30 minutes (not to exceed 45 minutes) of emergency determination.
- Performing the necessary steps in the [BED Hazardous Material Facilities \(RPL\) Checklist](#).
- Verifying other BERO positions use checklists as appropriate.
- Verifying that preservation of evidence at the event scene is taken into consideration during the event.
- Developing and transmitting event reports to maintain accurate and complete records of events, decisions, and actions during an event.

- Verifying the appropriate alarms are sounded when necessary.
- Acting as the IC and a member of the Incident Command Post (ICP) and providing information and assistance to the responding agencies as requested to mitigate the event, including:
  - Identifying the character, exact source, amount, and extent of any released materials.
  - Taking reasonable measures (e.g., stopping processes/operations, collecting/containing released waste, removing/isolating containers) necessary to make sure that fires, explosions, and releases do not occur, recur, or spread to other dangerous waste.
  - Monitoring for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment as appropriate.
- Approving reentry and/or rescue operations.
- Arranging care for any injured persons and contacting their line management.
- Notifying the HWTU permit personnel of any planned changes to the BEP.
- Verifying hazardous spill/release events are logged in the HWTU operating records.
- Taking appropriate actions during adverse chemical conditions see HDI Subject Area, *Responding to Spills, Exposure Incidents, or Material Loss*
- Providing a thorough turnover to the Hanford Site emergency responder (e.g., Hanford Fire Department, Hanford Patrol, etc.).
- Maintaining emergency equipment.
- Verifying that the environmental support contact will provide any necessary notifications to regulatory agencies such as the Washington State Department of Ecology and verifying that required written reports to regulatory agencies are completed within 15 days of event termination.
- Performing an annual review and update of the BEP.
- Planning, conducting, and documenting results of building emergency drills.
- Informing the Emergency Response Organization of any changes in RPL BERO staff.
- Being thoroughly familiar with the following:
  - The RPL BEP
  - All operations and activities
  - Locations and characteristics of waste handling
  - Locations of all records
  - Physical layout of the building and area of responsibility.

### **3.5 Incident Command Post (ICP) Communicator**

The individual responsible for conveying the event emergency classification to the ONC, phoning the POC at (9)911373-0911 (cell) to initiate a conference telephone bridge

between the POC, ONC, and ICP Communicator. Initiates and maintains a communication line between the Event Scene Liaison at the DOE-EOC and the ICP. As a precautionary measure, the BED makes sure that this position is staffed for all events. The ICP Communicator is responsible for completing [Incident Command Post Communicator Checklist](#).

**Note:** The ICP Communicator and alternates is a TDP in accordance with HDI Subject Area, *Workplace Substance Abuse*.

### 3.6 Assisting Communicator

Provides assistance to the ICP Communicator as directed by:

- Keeping the IC and BED aware of all transmitted and received information.
- Maintaining a log of communications sent and received.
- Establishing and maintaining a communication line with the Technical Support Representative (376-7148) in the DOE-EOC and the ICP throughout the incident.

### 3.7 Incident Command Post (ICP) Recorder

Records in a time-line format, event-related notifications and activities associated with the direction administered and information received by the ICP.

### 3.8 Management Support Group (MSG) Lead

The Facilities Operations & Engineering Division (FO&ED) Manager or delegate will respond as the Management Support Group (MSG) leader when requested by the BED.

**Note:** The MSG lead function and alternates is a TDP in accordance with HDI Subject Area, *Workplace Substance Abuse*.

The MSG lead is responsible for the following:

- Performing the necessary steps listed in ADM-EPIP-7.2, *Management Support Group*.
- Having applicable notifications made to PNNL and DOE management.
- Having the event classified per established PNNL procedures.
- Providing senior management assistance to the BED as necessary.
- Assisting in handling communications and notifications.
- Obtaining personnel, supplies, and equipment as necessary.

### 3.9 Management Support Group Liaison

Reports to the ICP to facilitate communications between the BED/IC and the MSG. The MSG liaison is responsible for the following:

- Establish phone communications with the MSG as needed to communicate with the MSG.
- Convey BED/IC requests for MSG support to the MSG.

- Communicate information from the MSG to the BED, IC, or other appropriate BERO members.
- Assist the MSG in completing the MSG Checklist while minimizing interference with activities at the ICP by observing activities and communications at the ICP.

### **3.10 Management Support Group Recorder**

Records in a time-line format, event-related notifications and activities associated with the direction administered and information received by the MSG.

### **3.11 Staging Area Supervisor**

The Staging Area Supervisor (SAS) will direct all activities at the building staging area and is responsible for:

- Assisting in personnel accountability by receiving the status of building occupancy from the zone wardens and then informing the BED of facility status with regard to personnel, or if help is needed to locate or account for missing personnel.
- Assisting in area evacuation.
- Assisting with communications.
- Supporting the BED as requested.
- Maintaining a log of their activities or assigning a log-keeper to do so.
- Completing the [RPL Staging Area Supervisor Checklist](#).

### **3.12 Zone Wardens**

Zone wardens and/or alternates provide the results of their accountability sweeps information to the BED via the SAS and assists in additional duties as determined by the BED. To accomplish this function, the zone wardens:

- Determine if all personnel have left their assigned area by performing a thorough room-by-room search, if safe to do so (see Note below), including unoccupied spaces such as stairwells, corridors, elevators, closets, and other common areas.
- Determine if aid and/or rescue are required and without endangering their own safety, aid those who may need help in evacuating the building.
- Report the occupancy status of the assigned zone(s) to the SAS noting areas that could not be checked.

Note: The function of the zone warden is to verify (when possible) that assigned zones have been evacuated as a means of assisting other emergency responders and to verify the locations of building personnel. The function of zone wardens does not include search and rescue; they should not enter any area they feel presents a hazard to them. Once the evacuation alarm is sounded, zone wardens should not enter any location in the facility where there are indications that a hazard may exist. The indications include such things as visible smoke, fire, unusual odors, local alarms, criticality alarms, spilled chemicals, indications on the fire alarm supervisory panel, incapacitated personnel, etc. If a zone warden is not in the facility when the evacuation or take cover alarm is initiated, is a significant distance from their assigned zones, or has been isolated from their zone, they should report to the SAS at the staging area or ICP for instructions.

### 3.13 Facility Operations Specialist (FOS)

Note: The FOS function is a TDP Position in accordance with HDI Subject Area, *Workplace Substance Abuse*.

This individual, either the BED or designee, is responsible for the immediate mitigative actions at the event scene that cannot be delayed without threatening human health and/or the environment. The FOS is responsible for meeting emergency responders at the event scene and providing information on event status and initial actions that are underway. This position will serve under the direction of the Hanford Fire Department or Hanford Patrol Operations Section Chiefs, upon their arrival, and will provide facility expertise to support operations section activities. The FOS is responsible for implementing the Facility Operations Specialist Checklist and maintains a log of activities, conversations, and directives given and received.

### 3.14 Hazard Communicator

The Hazard Communicator is a facility or process knowledgeable individual responsible for communicating data to the Uniform Dose Assessment Center (UDAC) for further consequence assessment during DOE-declared emergencies. This position is staffed only during DOE-declared emergencies at the request of the BED/IC. The Hazard Communicator:

- Establishes and maintains an emergency response organization (ERO) communication line with the UDAC Hazards Communicator to provide incident scene radiological or chemical data as reported by the Hazard Assessors.
- Keeps the IC and BED aware of all transmitted and received information.
- Maintains a log, or assigns a log-keeper to record all activities, including the date and time information was received or the time when action was taken.
- Responds to requests for information from the UDAC and assures that requests for information are relayed to the Hazards Assessor(s) for response.
- Implements the [Hazards Communicator Checklist](#).

### 3.15 Hazards Assessors

There are two different Hazards Assessors for the RPL facility. One assessor deals with radiological hazards and the other deals with chemical hazards.

### 3.15.1 Radiological Hazard Assessors

The radiological hazards assessors are responsible for coordinating and ensuring accomplishment of radiological control functions throughout the scene. This position reports to the operations section chief at any location. The affected facility's radiological control manager or equivalent will fill this position. The Radiological Hazards Assessor is responsible for:

- Implementing the [Radiological Hazard Assessors Checklist](#).
- Maintaining a log of activities, conversations, and directives given and received.
- Supervises maintenance of a log of radiological protection technologist (RPT) activities.

### 3.15.2 Chemical Hazard Assessors

The chemical hazards assessors position is filled by an Industrial Hygienist assigned to the Hanford Fire Department (HFD) (the HFD may use facility IH personnel if available until HFD IH personnel arrive), in support of HFD HazMat Team HFD-Medical Staff, and HFD-Safety Officer who will provide technical expertise in chemical and toxicological hazard identification, evaluation, reactivity, and dispersion modeling at the incident scene. The IH may also serve as a chemical/decontamination safety officer, if designated by the IC. Activities will be conducted in accordance with this procedure and other internal HFD procedures as applicable. This position may be staffed for non-declared, RCRA and DOE-declared emergencies as necessary. The Chemical Hazards Assessor is responsible for:

- Implementing the [Chemical Hazard Assessors Checklist](#)
- Maintaining a log of activities, conversations, and directives both given and received.

## 3.16 Individual Staff Member Responsibilities

- Announce and activate the fire alarm when appropriate.
- Read and understand the Emergency Information Posting (EIP) and BEP.
- Become familiar with the location of the BEP on the RPL webpage and the HDI Subject Area, *Emergency Preparedness*.
- Avoid exposure to harmful and life-threatening conditions.
- During emergencies, if it can be done safely, secure classified documents and electronic storage media (ESM) before leaving limited areas. If this cannot be done without endangering yourself: 1) take the classified documents and ESM with you, if time permits; 2) report to the staging area and; 3) inform the BED and then call 375-2400 to report an incident of security concern.
- Provide the BED with any information to assist in evaluating the emergency condition.

- If evacuating due to a fire alarm and you are wearing special PPE or anti-contamination clothing, segregate yourself from others at the staging area until surveyed by a RPT.
- Remain at the staging area and follow the instructions of the BED and SAS.
- Wear your Emergency Preparedness information card.
- When evacuating the RPL due to a fire or a criticality alarm, personnel are authorized to exit the radiological control area(s) without performing radiological exit surveys within the RPL. If a radiological exit survey is not performed, personnel should segregate themselves from others at the staging area until surveyed by RPT's.

### **3.17 Facility Visitor Responsibilities**

The safety of building visitors is the responsibility of the facility host who shall assure that visitors are provided a safe and orderly evacuation. The facility host will report the visitor status to the SAS as soon as is practical after an evacuation.

### **3.18 Supervisors/Manager Responsibilities**

Account for all staff members. Report missing or injured members to the SAS and if requested, assist the SAS.

### **3.19 Unique Program Laboratory Expertise**

The technical knowledge of specific programs/laboratory activities are usually known by the laboratory occupant or program manager. When applicable, cognizant space managers (CSMs), alternate CSMs, and team leads may be contacted in regards to emergencies or off-normal events in assigned laboratories. Hazard Awareness Summaries containing this information are posted throughout the facility.

Rooms 201, 202 and 529 are less than 90-day Radioactive Hazardous Waste Accumulation Areas.

The Treatment, Storage, and Disposal (TSD) areas consist of the following rooms: 32, 200, 201, 202, 203, 520, 524, and 528.

These rooms may contain significant quantities of hazardous waste for short periods of time. This waste can be radioactive, toxic, corrosive, ignitable, reactive, carcinogenic, or environmentally persistent according to the WAC [WAC 173-303].

**No one will enter these rooms without permission from one of the individuals whose names are posted on the door.**

Wastes stored in these rooms could have significant environmental or health hazards. Incidents involving any of these locations will require hazardous materials expertise by the responders.

### **3.20 Environment, Safety, and Health Advisor Responsibilities**

Provides guidance for establishing safety requirements for mitigation and recovery actions, which include coordinating any support needed from other disciplines of the PNNL Environment, Health, Safety, and Security (EHS&S) Directorate (i.e., Environmental Compliance Representatives (ECR), Radiological Control, Hygiene, and Field Services Representatives [FSR]).

The Environmental Compliance and FSRs conduct activities within specific hazardous waste management activity areas and provide support to the BED in case of an emergency. The environmental support contact (375-2966) will provide any necessary notifications to regulatory agencies such as the Washington State Department of Ecology and transmit required written reports to regulatory agencies within 15 days of event termination.

### **3.21 Line Management**

The responsibilities of line management include the following activities:

- Keeping the BED informed of changes in programmatic activities that could affect an emergency event.
- Providing or verifying that your staff are trained as specified in PNNL-MA-110, *Emergency Management Plan*.
- Keeping the BED and zone wardens informed of any resident staff member in the RPL who has a physical disability.
- Be familiar with the HDI Subject Area, *Injury or Illness*.
- Providing staff who are residents in the RPL, or are qualified Fissionable Material Handlers with a Personal Nuclear Accident Dosimeter (PNAD).

Line management has the responsibility to assure that each PNNL staff member performing work in or having unescorted access approval into the RPL reviews this BEP annually and documents the review with their training coordinator.

### **3.22 New Staff Assigned to RPL**

All new assignees to the RPL facility shall complete initial training within 10 working days of assignment. All temporary personnel with unescorted access are required to receive this training before beginning work in the RPL facility.

## 4.0 Implementation of the BEP

The decision to implement the BEP should be made whenever unusual or emergency conditions exist that require the response of facility and/or emergency personnel and the establishment of an ICP.

For RCRA events, the BEP must be implemented and the Washington State Department of Ecology notified if all the following criteria are met:

1. The event involves an unplanned spill, release, fire, or explosion;

AND

- 2a. The unplanned spill or release involves a dangerous waste, or the material involved becomes dangerous waste as a result of the event (e.g., product that is not recoverable),

OR;

- 2b. The unplanned fire or explosion occurred at a facility or transportation activity subject to RCRA contingency planning requirements;

AND

3. Time-urgent response from an emergency services organization is required to mitigate the event or a threat to human health or the environment exists.
  - Based on evaluation of the event, the BED or alternate BED will implement the BEP to the extent necessary to protect human health and/or the environment. The BED has the authority to commit the resources necessary to carry out the actions required by the BEP.
  - The BED will direct that additional checklists that are identified in the BEP be initiated and completed. When the materials and quantities involved in the incident have been identified, it should be possible to evaluate the magnitude of the hazard.

During an emergency event, the BED will take all reasonable measures to assure that fires, explosions, and releases do not occur, recur, or spread to other dangerous waste in the facility. Measures include stopping processes and operations, collecting and containing released waste, and removing or isolating containers as appropriate.

In any emergency, priority is given to protection of the health and safety of persons in the immediate area. Containment and cleanup are secondary choices. When responding to minor spill events, onsite personnel will generally perform immediate cleanup of minor spill or releases using facility equipment. Remediation of such spills and releases would not normally constitute activation of the BEP. A spill or release of dangerous waste is considered 'minor' if **ALL** of the following are true:

- The spill is either contained, or if outside a secondary containment, is minor in quantity (generally less than 10 gallons of liquid or 100 pounds of solids);
- The composition of the material or waste is known and can be immediately determined from the label, manifest, MSDS, or other records;
- The spill does not threaten the health and safety of building occupants such that an area evacuation is necessary;
- Response personnel have appropriate training and equipment to expeditiously remediate the spill or release.

## 5.0 Facility Hazards

The RPL contains both radioactive and hazardous chemicals that pose a potential hazard to the public, adjacent facilities, personnel, programs, and the environment during an emergency. Because the location of hazardous materials and equipment within the facility can change on a frequent basis due to specific research needs, a variety of informational tools have been created and integrated into daily operations. Some of the tools available within the facility are the Map Information Tool (MIT), Chemical Management System (CMS), the RPL Operating Envelope webpage, and the Integrated Operations System (IOPS) which includes the Hazard Awareness Summaries for each hazardous space in RPL.

### 5.1 Hazardous Materials

The RPL building contains hazardous materials including:

- Chemicals exhibiting one or more hazards such as corrosives, oxidizers, flammable solids and liquids, poisons, etc.
- Radioactive materials.
- Hazardous wastes, including listed wastes and waste exhibiting one or more characteristics such as corrosivity, reactivity, ignitability, toxicity, and/or environmental persistence.
- Mixed wastes (wastes containing both radioactive and hazardous components).

Hazards associated with these materials vary depending on type, quantity, and concentration of the material(s) involved in the incident as well as the type of incident.

During an emergency, the PNNL CMS may be consulted to determine the identity and quantity of hazardous chemicals located in affected areas of the facility. The listing of satellite and 90-day accumulation areas (available on the Environmental Management Services Department (EMSD) webpage) may be consulted to identify the location and type of wastes (hazardous and mixed) in the facility. The inventory of waste stored in the RPL RCRA permitted unit may be determined by consulting with EMSD personnel.

Arrangements for local response agencies (fire, police, and medical and emergency response teams) are required to assist in pre-emergency planning. These arrangements include familiarization with the properties of dangerous waste handled at the facility and associated hazards. The Emergency Preparedness Office provides these coordination efforts with input from individual BEDs and others as appropriate.

### 5.2 Physical (Industrial) Hazards

The RPL building contains industrial hazards such as high-voltage equipment, high-temperature equipment, elevated work areas, and overhead hazards. Refer to the IOPS Hazard Awareness Summaries that are posted at the entrance to each space for specific details.

### 5.3 Dangerous Mixed Waste

See Section 5.1. Refer to the MIT to identify the location of any dangerous mixed waste location in a specific room.

#### **5.4 Radioactive Materials**

See Section 5.1. Refer to the MIT to identify the location of any dangerous mixed waste location in a specific room.

#### **5.5 Criticality**

The RPL building is a Hazard Category 2 non-reactor nuclear facility designed as a multi-purpose research facility. Fissionable materials are stored in various locations throughout the building, including the first floor storage room (room 530), laboratories, and the east storage yard.

Storage of fissionable material uses a combination of mass, spacing, geometry, and moderation limits to provide criticality safety. An important criticality control element is through limiting the mass of fissionable material within boundaries of criticality safety controlled areas so that even if two batches were inadvertently stored together, criticality would not occur.

The RPL Documented Safety Analysis (DSA) analyzed various scenarios regarding potential criticality incidents. The Nuclear Criticality Safety Program administered within the RPL provides the administrative and physical controls necessary to assure the possibility of a criticality event remains extremely unlikely. The RPL criticality alarm system is tested on a semiannual basis.

## 6.0 Potential Emergency Conditions and Appropriate Response

### 6.1 Explosion/Fire/Fire Alarm

**Note:** During these events, it is likely that facility integrity may be compromised and that the facility will also experience a concurrent loss of electrical power and/or control of the building ventilation systems. If this is the case, refer to Sections 6.2, *Hazardous Material/Dangerous or Mixed Waste Spill* and 6.6 *Loss of Electrical Power/Reduced Ventilation* for concurrent actions as appropriate.

If you are involved with, or are in close proximity to an explosion, a fire, or discovery of a fire, or have indication that the fire alarm is sounding, perform the following:

#### 6.1.1 Fire/Explosion

**Note:** If appropriate, classify the event using the RPL EALs.

- 6.1.1.1 Sound the alarm by pulling the fire alarm pull box. See the guidance for the exception to this step below.

**Exception to pulling the fire alarm:** If a simple and safe action can be taken that will immediately and positively extinguish a small fire (e.g., pulling the plug on a malfunctioning lab instrument, isolating a fuel source such as quickly closing a valve that is immediately at hand, smothering the flame), then pulling the fire alarm pull box is not necessary, and the fire may be extinguished prior to calling the PNNL Operations Center at 375-2400.

- 6.1.1.2 Evacuate the building through the nearest exit that can be safely used.

- 6.1.1.3 Once in a safe location, notify the PNNL Operations Center at 375-2400 and provide the following information (if known):

- Nature and location of the event.
- If the conditions of the event appear to be degrading, (i.e., the fire appears to be escalating or building structures are being compromised).
- Your name and callback telephone number.
- Time event began or was discovered.
- Report the number of any injured personnel.
- If known, include the following: name(s) and amount(s) of any chemical(s) that are involved or may be burning as a result of the fire.

**Note:** The fire department can be notified directly by calling (9)911373-0911(cell). If the fire department was contacted using this option, also call the PNNL Operations Center at 375-2400 as soon as possible to initiate PNNL management notification and emergency response.

- 6.1.1.4 If time permits, and without putting yourself in jeopardy, you may fight the fire under the following conditions:

- You have verified that someone has called the PNNL Operations Center at 375-2400 or (9)911 373-0911(cell).
- You have directed someone to pull the fire alarm pull box.
- If you are willing, able, and knowledgeable about the selection of fire extinguisher and its use.

**Note:** Fire extinguishers equipped with the glove piercing tips are for HFD use only.

- If the fire is in a hot cell attempt to smother the fire or for a large fire, put the fire out using the fire extinguishing system if you are trained to do so.
- If the fire is in a glove box do not attempt to fight the fire using the gloves. Isolate supply air to the glove box if safe to do so.
- If the fire is small and you know what material is burning, the fire does not involve significant quantities of hazardous materials and does not present a personnel exposure hazard to smoke or significant heat.

6.1.1.5 If you have chosen to fight the fire, and after the fire is believed to be out, call the PNNL Operations Center at 375-2400 and inform them of your actions.

- Unless there are significant amounts of smoke or fumes, remain in the proximity of the fire to verify that the fire does not re-flash.
- In the event the fire re-flashes, perform these actions starting with Step 6.1.1, and do not attempt to fight the fire on your own.

## 6.1.2 Fire Alarm

**Note:** If appropriate, classify the event using the RPL EALs.

6.1.2.1 If time permits, and without placing yourself in jeopardy, perform the following:

- Verify equipment is shutdown or is in a safe configuration.
- Verify nuclear materials are secured.

6.1.2.2 Zone wardens perform an accountability sweep of their assigned areas.

6.1.2.3 Evacuate the building through the nearest exit that can safely be used.

6.1.2.4 Assemble at the staging area located at the lower south parking lot, north end of lane #9.

- a. Zone wardens report the status of their accountability sweep to the SAS.
- b. If classified materials (documents, electronic storage media, test materials, etc.) are removed from the Limited Area (LA) or left unsecured within the LA:
  - Inform the SAS that classified material has been left in an unsecured condition or has been removed from the LA.

- Call the PNNL Operations Center at 375-2400 and report the details surrounding the classified materials security event.
- The SAS shall provide information to the BED concerning the classified material.
- c. Personnel who are wearing PPE clothing or are suspected of being contaminated shall be segregated from other building occupants and shall be surveyed by radiological control personnel. PPE will be discarded as directed by the RPT.
- d. Zone wardens and all staff are to remain at the staging area and follow the instructions of the BED.

## 6.2 Hazardous Material/Dangerous or Mixed Waste Spill

**Note:** If appropriate, classify the event using the RPL EALs.

### 6.2.1 For minor spills/releases that are relatively small in size, perform the following:

**Note:** A spill or release of dangerous waste is considered “minor” if ALL of the following are true. If not refer to section 6.2.2.

- The spill/release is either contained or, if outside of a secondary containment, is minor in quantity (generally less than 10 gallons of liquid or 100 pounds of solids).
  - The composition of the material or waste is known and can be immediately determined from the label, manifest, MSDS, or other records.
  - The spill/release does not threaten the health and safety of building occupants such that a building evacuation is necessary.
  - Response personnel have appropriate training and equipment to expeditiously remediate the spill or release.
- 6.2.1.1 Move personnel away from the substance.
- 6.2.1.2 Notify nearby personnel of the emergency.
- 6.2.1.3 Prevent personnel exposure by restricting access to the spill area by setting up barricades, closing doors, etc.
- 6.2.1.4 Notify the PNNL Operations Center at 375-2400 and provide the following:
- Nature and location of the event.
  - Name(s) of chemicals involved, amounts, sources, and known hazards about the chemicals.
  - If the spill has been contained.
  - If any material has been released to the environment.
  - Any corrective actions in progress.
  - Name(s) of anyone contaminated or injured in connection with the incident.
  - Other hazards that may or may not be related to the spill.

- Time incident began or was discovered.
- The current status of the event, i.e., spill contained or not contained, etc.
- Name, location, and callback telephone number of person reporting the incident.

6.2.1.5 Notify the BED, CSM, and the safety and health representative.

6.2.1.6 Take steps to contain the spill/release **IF** and only **IF**:

- a. The identity of the substance is known.
- b. The hazards of the substance are known (flammable, toxic, radioactive, corrosive material) and can either be controlled or they do not present an immediate threat.
- c. Appropriate PPE and control/cleanup supplies are readily available.
- d. The individual(s) performing the task have had training related to spill/leak control and can safely perform the action(s) without assistance, or assistance is readily available from other trained personnel.

6.2.1.7 Steps to contain the spill/release may include, as appropriate:

- a. Build a containment of absorbent materials and restrict access to the affected area.
- b. Tighten closures; tip the container to stop the leak, use plugging, or patching materials or over packing.
- c. Perform initial cleanup of the spill area by transferring contents to appropriate non-leaking containers using the appropriate procedures and tools.

**6.2.2 For a major spill/release, or tank spills, perform the following actions.**

**Note:** If appropriate, classify the event using the RPL EALs.

6.2.2.1 If the spill/release threatens the health and safety of building occupants such that a building evacuation is necessary, initiate a building evacuation by pulling the fire alarm. If a building evacuation is not necessary, continue at section 6.2.2.2.

- a. Assemble at the staging area located at the lower south parking lot, north end of lane #9.
  1. Zone wardens report to the SAS.
  2. If classified materials (documents, electronic storage media, test materials, etc.) are removed from the LA or left unsecured within the LA:
    - Inform the SAS that classified material has been left in an unsecured condition or has been removed from a LA.

- Call the PNNL Operations Center at 375-2400 and report the details surrounding the classified materials security event.
  - The SAS shall provide information to the BED concerning the classified material.
3. Personnel who are wearing PPE clothing or are suspected of being contaminated shall be segregated from other building occupants and shall be surveyed by radiological control personnel. PPE will be discarded as directed by the RPT.
  4. Zone wardens and all staff are to remain at the staging area and follow the instructions of the BED.
- 6.2.2.2 Move personnel away from the substance.
- 6.2.2.3 Notify nearby personnel of the emergency.
- 6.2.2.4 Notify the PNNL Operations Center at 375-2400 and provide the following:
- name, location, and callback telephone number of person reporting the incident.
  - name(s) of chemical(s) involved and amount(s) involved in the incident.
  - location of incident (identify as closely as possible and include information about multiple building numbers).
  - time incident began or was discovered.
  - where the materials involved are going or might go, such as into secondary containment, under doors, through air ducts, etc.
  - source and cause, if known,
  - name(s) of anyone contaminated or injured in connection with the incident.
  - any corrective actions in progress.
  - anyone else who the discoverer has contacted.
  - any known hazards.
  - where and when the chemical condition or spill occurred.
  - if any material was released to the environment (e.g., to a stack or a sewer system).
  - the status of the situation.
- 6.2.2.5 Prevent personnel exposure (e.g., set up barricades).
- 6.2.2.6 Contact the Cognizant Space Manager (CSM).
- 6.2.2.7 Notify the safety and health representative.

6.2.2.8 Take steps to contain the spill ONLY IF ALL THE FOLLOWING EXIST:

- The identity of the substance is known.
- The hazards of the substance are known (flammable, toxic, radioactive, corrosive material) and can either be controlled or they do not present an immediate threat.
- Appropriate protective equipment and control/cleanup supplies are readily available.
- The individual(s) performing the task have had training related to spill/leak control and can safely perform the action(s) without assistance, or assistance is readily available from other trained personnel.

6.2.2.9 Initiate actions to mitigate a tank spill/leak using trained personnel:

- Stop the source of the leak if possible (shutting valves, turning off pumps, etc.).
- Prevent further additions of liquid to the tank.
- Visually inspect the tank system to determine the source of the leak.
- Within 24 hours, remove as much of the liquid from the tank as is practicable to prevent further leakage.
- Remove any leakage contained in a secondary containment within 24 hours or as soon as practicable.
- Prevent any further leakage or migration of the leak to soils or surface waters.

6.2.2.10 Notify the BED, the CSM, and the safety and health representative of any pertinent information that you may have.

- The discoverer of the spill will provide a synopsis of the event and the actions taken to the BED, CSM, and the safety and health representative.
- Upon completion of the event briefing, the BED will direct spill event mitigation activities.

**6.2.3 For events that involve transportation and/or damaged packaging of hazardous material or dangerous waste that arrives at the RPL:**

**Note:** If appropriate, classify the event using the RPL EALs.

6.2.3.1 DO NOT move the shipment.

6.2.3.2 Notify the BED, CSM, and the safety and health representative.

- The receiver of the shipment or discoverer of the damaged package will provide a synopsis of the situation and the actions taken if any, to the BED, CSM, and the safety and health representative.

6.2.3.3 The BED will evaluate the event and initiate appropriate actions for minor events/spills per Section 6.2.1 or 6.2.2 as appropriate.

- Treat any release from the package as a hazardous material spill and perform response actions as appropriate.

### 6.3 Unusual, Irritating or Strong Odors

**6.3.1 If an unusual odor is detected and the source is unknown, the type and location of the odor should be reported to the BED; the BED will determine the appropriate actions.**

6.3.1.1 If the odor is determined to be potentially dangerous, then,

- a. Initiate a building evacuation by pulling the fire alarm.
- b. Assemble at the staging area located at the lower south parking lot, north end of lane #9.
- c. Zone wardens report to the SAS.
- d. If classified materials (documents, electronic storage media, test materials, etc.) are removed from the LA or left unsecured within the LA:
  - Inform the SAS that classified material has been left in an unsecured condition or has been removed from the LA.
  - Call the PNNL Operations Center at 375-2400 and report the details surrounding the classified materials security event.
  - The SAS shall provide information to the BED concerning the classified material.
- e. Personnel who are wearing PPE clothing or are suspected of being contaminated shall be segregated from other building occupants and shall be surveyed by radiological control personnel. PPE will be discarded as directed by the RPT.
- f. Zone wardens and all staff are to remain at the staging area and follow the instructions of the BED.

### 6.4 Potential Radiological Material Release

**Note:** If appropriate, classify the event using the RPL EALs.

**Note:** If readings are provided in Becquerels. A Becquerel is a SI unit of radioactivity equal to one disintegration per second. Conversion to dpm (disintegration per minute): Multiply total Becquerel's by 60.

**6.4.1 Area Radiation Monitor (ARM)**

- a. Stop work.
- b. Alert personnel in the area.
- c. Exit the RCA that is being monitored by the ARM.
- d. Notify the RPT and the BED.
- e. Notify the PNNL Operations Center at 375-2400.

**6.4.2 Continuous Air Monitor (CAM) or ALPHA Sentry Cam**

- a. Stop work.
- b. Alert personnel in the area.
- c. Exit the area being monitored by the CAM and move into a separate air space.
- d. Notify the RPT and the BED.
- e. Notify the PNNL Operations Center at 375-2400.

**6.4.3 Glove box differential pressure alarm**

- a. Stop work.
- b. Alert personnel in the area.
- c. Exit the immediate area.
- d. Notify the RPT and the BED.
- e. Notify the PNNL Operations Center at 375-2400.

**6.4.4 Hot cell differential pressure alarm**

- a. Stop work.
- b. Alert personnel in the area.
- c. Exit the immediate area.
- d. Notify the RPT and the BED.
- e. Notify the PNNL Operations Center at 375-2400.

**6.5 Criticality**

**6.5.1 In the event of a criticality alarm, perform the following:**

**Note:** If appropriate, classify the event using the RPL EALs.

- 6.5.1.1 Leave the building immediately through the closest exit.
- 6.5.1.2 Zone wardens are also directed to leave the building immediately without performing accountability sweeps of their zones.

**Note:** Obstacles located within 100 feet of the building (fences, walls, trenches, etc.) may prevent running directly away from the building for 100 feet. Choose a path around these barriers that will maximize your distance from the building. When past the obstacle, continue directly away from the building until you are 100 feet from the building. See Attachments 1-3, *Emergency Equipment & Evacuation Routes* for suggested routes to the RPL Staging Area.

- 6.5.1.3 Run at least 100 feet directly away from the building, then proceed to the staging area along a path that does not take you closer to the building.
- 6.5.1.4 Assemble at the staging area located at the lower south parking lot, north end of lane #9.
  - a. Zone wardens report to the SAS.
  - b. If classified materials (documents, electronic storage media, test materials, etc.) are removed from the LA or left unsecured within the LA:
    - Inform the SAS that classified material has been left in an unsecured condition or has been removed from the LA.
    - Call the PNNL Operations Center at 375-2400 and report the details surrounding the classified materials security event.
    - The SAS shall provide information to the BED concerning the classified material.
  - c. Personnel who are wearing PPE clothing or are suspected of being contaminated shall be segregated from other building occupants and shall be surveyed by radiological control personnel. PPE will be discarded as directed by the RPT.
  - d. Per RCP-8.1.02, initiate “Quick-Sort Survey of Personnel.”
  - e. Determine the radiation dose levels at the staging area and in the evacuated area following a criticality accident.
  - f. Dose rates and report findings shall be reported to the BED.
  - g. Zone wardens and all staff are to remain at the staging area and follow the instructions of the BED.

## **6.6 Loss of Electrical Power/Reduced Ventilation**

### **6.6.1 In the event of a loss of or a significant interruption to building electrical power and/or a reduction in ventilation flow, perform the following:**

- 6.6.1.1 Place laboratory or room in safe condition per the following:
  - a. Verify fume hoods and sashes are closed.
  - b. Verify equipment is shutdown.
  - c. Verify nuclear material(s) are secure.
  - d. Verify that classified materials are secure.

- e. Verify all hazardous materials are secure.
- 6.6.1.2 If the building electrical power returns and/or standby power are still available:
- a. Assemble in the lunchroom.
  - b. If classified materials (documents, electronic storage media, test materials, etc.) are removed from the LA or left unsecured within the LA:
    - Inform the SAS that classified material has been left in an unsecured condition or has been removed from the LA.
    - Call the PNNL Operations Center at 375-2400 and report the details surrounding the classified materials security event.
    - The SAS shall provide information to the BED concerning the classified material.
  - c. Personnel exiting the radiological buffer areas (RBA) are expected to do so without surveying through the PCMs.
  - d. Personnel who are wearing PPE clothing or are suspected of being contaminated shall be segregated from other building occupants and shall be surveyed by radiological control personnel. PPE will be discarded as directed by the RPT.
  - e. Zone wardens for Zones 2 and 8 are requested to activate the flashing red warning lights.
  - f. Zone wardens and all staff are to remain at the lunchroom and follow the instructions of the BED.
  - g. Radiological surveys of the facility shall be performed prior to re-entry.

## 6.7 Natural Phenomena Events

**Note:** If appropriate, classify the event using the RPL EALs.

The natural phenomena events that are considered as having a probability of occurring and are addressed in this procedure are seismic event/earthquake, volcanic eruption/ash fall, high wind/tornado, flood, and range fire.

If these events were to occur, Hanford TNS messages will most likely be sent before, during, or immediately following the event. Regardless of the receipt of a phone message, the BED will direct activities within the facility in accordance with this procedure and provided by phone messages as appropriate.

Should it become necessary to evacuate the facility, the BED will report the evacuation to the PNNL Operations Center at 375-2400, and the Occurrence Notification Center, (ONC) at 376-2900.

## 6.8 Bomb Threats/Suspicious Objects

**Note:** If appropriate, classify the event using the RPL EALs.

**6.8.1 If a suspicious object is discovered, or the placement of such an object is observed, perform the following actions:**

- 6.8.1.1 Do not move, open, or otherwise disturb any suspicious objects.
- 6.8.1.2 Notify the PNNL Operations Center at 375-2400 and the RPL BED using office telephones only.
- 6.8.1.3 Evacuate the facility. **DO NOT USE THE FIRE ALARM PULL BOX TO INITIATE THE EVACUATION.**
  - a. Warn others in the immediate vicinity.
  - b. Leave the building immediately via the closest exit.
  - c. Zone wardens are also directed to leave the building immediately without performing accountability sweeps of their zones.
- 6.8.1.4 Cease all use of cellular phones, radios, or other radio frequency generating equipment.
- 6.8.1.5 Assemble at the staging area located at the lower south parking lot, north end of lane #9 or in an area that is located a minimum of 300 feet from the potential hazard, whichever is further.
  - a. Zone wardens report to the SAS.
  - b. If classified materials (documents, electronic storage media, test materials, etc.) are removed from the LA or left unsecured within the LA:
    - Inform the SAS that classified material has been left in an unsecured condition or has been removed from a LA.
    - Call the PNNL Operations Center at 375-2400 and report the details surrounding the classified materials security event.
    - The SAS shall provide information to the BED concerning the classified material.
  - c. Personnel who are wearing PPE clothing or are suspected of being contaminated shall be segregated from other building occupants and shall be surveyed by radiological control personnel. PPE will be discarded as directed by the RPT.
  - d. Zone wardens and all staff are to remain at the staging area and follow the instructions of the BED.

**6.8.2 If a telephone bomb threat is received:**

- 6.8.2.1 Record the message exactly as dictated and attempt to obtain the following information:
  - When will it go off?
  - Where it is located?
  - What it looks like.
  - What kind it is.

- Why it was placed?
- Who placed it?
- How you know so much about it?
- Who placed it?
- Where are you calling from?
- What's your name and address?

6.8.2.2 Notify the PNNL Operations Center at 375-2400 and provide the information given by the caller.

6.8.2.3 Upon completion of the notifications to the PNNL Operations Center, also notify the BED and provide the information obtained from the caller.

**6.8.3 If a written bomb threat is received,**

6.8.3.1 Notify the PNNL Operations Center at 375-2400.

6.8.3.2 Provide the written bomb threat to the RPL BED who will forward it to the PNNL Subject Matter Expert/Safeguards and Security Management Official.

**6.9 Hostage Situation/Armed Intruder**

**6.9.1 When condition is observed,**

6.9.1.1 Notify the PNNL Operations Center at 375-2400 and provide the requested information.

6.9.1.2 Take cover in an office with the door closed if available, otherwise,

6.9.1.3 Evacuate from the building if located in cubicle or in an office without doors.

6.9.1.4 If possible, notify the BED and provide as much information as is available.

6.9.1.5 Assemble at the staging area located at the lower south parking lot, north end of lane #9.

a. Zone wardens report to the SAS.

b. If classified materials (documents, electronic storage media, test materials, etc.) are removed from the LA or left unsecured within the LA:

- Inform the SAS that classified material has been left in an unsecured condition or has been removed from the LA.
- Call the PNNL Operations Center at 375-2400 and report the details surrounding the classified materials security event.
- The SAS shall provide information to the BED concerning the classified material.

c. Personnel who are wearing PPE clothing or are suspected of being contaminated shall be segregated from other building occupants and shall be surveyed by radiological control personnel. PPE will be discarded as directed by the RPT.

**6.9.2 Building Emergency Director Response**

- 6.9.2.1 Request the safeguards and security representative be notified.
- 6.9.2.2 Safely evacuate staff from the building when office spaces are cubicles. Those close to the event scene should take cover in a locked room or in whatever space is available.
- 6.9.2.3 If possible, clear the area of personnel.
- 6.9.2.4 Do not move any suspicious objects.
- 6.9.2.5 Post warnings, if applicable.
- 6.9.2.6 Provide emergency responders with appropriate information upon arrival.
- 6.9.2.7 Keep staff from entering the affected area.
- 6.9.2.8 If appropriate, classify the event using the RPL EALs.
- 6.9.2.9 Activate the MSG.
- 6.9.2.10 Request medical assistance if necessary.

## **6.10 Declared Emergency in the 300 Area**

- 6.10.1** Personnel will evacuate the facility or take cover as directed by the BED.
- 6.10.2** If the declared emergency originates in the RPL facility, the BED shall take actions that are in accordance with the BEP and inform and direct other 300 Area contractors and other facility owners of the emergency declaration in accordance with their emergency procedures.

## **7.0 Facility Take Cover - Shutdown of HVAC**

### **7.1.1 If outside of the RPL, perform the following:**

- 7.1.1.1 Take cover inside the nearest building.
- 7.1.1.2 If the building you take cover in is not the RPL, attempt to contact your line manager or team lead and have them report your whereabouts to the RPL SAS.
- 7.1.1.3 If unable to contact your management, report to the building emergency response organization for the building where you are located so your personal accountability may be made.
- 7.1.1.4 Follow directions provided by that building's emergency organization or BED.

### **7.1.2 If you take cover inside the RPL, remain inside the RPL.**

- 7.1.2.1 Assemble in the lunchroom.
- 7.1.2.2 Staff should refrain from eating and drinking during a take cover event if physically able, until an appropriate evaluation of the event can be made.
- 7.1.2.3 If classified materials (documents, electronic storage media, test materials, etc.) are removed from the LA, or left unsecured within the LA:
  - Inform the SAS that classified material has been left in an unsecured condition, has been removed from the LA, and the status/location of the classified material.
  - Call the PNNL Operations Center at 375-2400 and report the details surrounding the classified materials as a security event, and provide details as necessary.
  - The SAS shall provide information to the BED concerning the classified material.
- 7.1.2.4 Personnel who are wearing PPE clothing or are suspected of being contaminated shall be segregated from other building occupants and shall be surveyed by radiological control personnel. PPE will be discarded as directed by the RPT.
- 7.1.2.5 Zone wardens for zones two and eight are requested to activate the flashing red warning lights.
- 7.1.2.6 Zone wardens and all staff are to remain in the lunchroom and follow the instructions of the BED.

## **8.0 Utility Disconnects**

Utility disconnects may be necessary under extreme emergency conditions. The RPL BED will determine if utility disconnects need to be disconnected/shut. Locations of the utility disconnects or valves are described as follows:

### **8.1 Electrical**

The RPL Building main electrical control center switchgear is located on the second floor (northwest corner) in room 904. Extreme caution shall be used if disconnecting this power.

### **8.2 Potable/Process Water**

The internal valves are located in the southwest corner of room 22 in the basement. The external post-indicating valve (black standpipe PIV) is located outside at the southwest corner of the RPL building.

### **8.3 Gas Supplies**

The P-10 gas distribution system is located at the northeast end of the north gas cylinder dock. Turn cylinders off as directed by the RPL BED.

### **8.4 Steam**

The high-pressure steam supply valves are located above the power operator's workstation entry door on the second floor east equipment room. Steam to the RPL may also be isolated using valves inside the Johnson Controls operated 325B boiler house, if access to the RPL is not possible.

### **8.5 Air**

The external high-pressure compressed air supply isolation valve is located northeast of the air receiver tank that is located in the northeast corner of the basement. Compressed air to the RPL may also be isolated using isolation valves at the air compressor located outside the RPL at the northeast corner of the RPL if access to the RPL basement is not possible.

To remove all sources (except gas cylinders) of high and low-pressure compressed air in the RPL and the RPL Filter Building, compressed air from the emergency compressor (CA-97-COMP) located in the northeast corner of the basement must also be isolated or the compressor shutdown. Isolation of compressed air from the compressor is accomplished by shutting valve CA-96-VLV, which is located just north of the air compressor. The compressor may be shutdown using its control switch adjacent to the compressor or by turning off electrical power to the compressor by opening breaker "2D" on motor control center SMCC-B-B2 which is located in the northwest corner of the RPL basement. If the basement is not accessible, electrical power to the compressor must be turned off at a breaker upstream of SMCC-B-B2.

### **8.6 Ventilation**

Facility exhaust and supply fan controls are located:

- At the power operator workstation (room 900).
- In the north part of the basement, west of the elevator.

- Additional exhaust fan controls are on the starter enclosure for each exhaust fan inside the RPL Filter Building.

External shutdown of the main exhaust and supply fans may be accomplished under extreme circumstances by removing both normal and standby electrical power from the building. A more controlled external shutdown of the main exhaust and supply fans is a complicated evolution involving multiple operating locations that must be accomplished in a specific sequence under supervision of RPL knowledgeable staff to prevent the risk of loss of building containment due to creation of a positive pressure inside the building.

### **8.7 Fire Protection Supply Water**

Fire Suppression Supply Water Post Indicator Valves (Red PIVs) for Risers 1 through 5 are located outside the RPL building in the following locations:

- Riser #1 PIV is located at the northwest corner of the RPL building by the 328 building boiler annex.
- Riser #2 PIV is located at the north area inside the fenced area south of the 328 building.
- Riser #3 PIV is located at the southwest corner of the RPL building.
- Riser #4 PIV is located southeast of the RPL-A annex.
- Riser #5 PIV is located southeast of the RPL-A annex.

### **8.8 Dry Pipe OS&Y (Riser #6)**

The OS&Y valve for the dry pipe fire suppression system on the north gas cylinder dock is located on the second floor in the east equipment room at the north wall. Suppression water for this system is supplied from Riser #2 and may be isolated external to the RPL by shutting the PIV for Riser #2.

### **8.9 RPL Ramp Sump Pump**

Water runoff down the RPL basement truck ramp at the southwest corner of the building is collected in a sump at the bottom of the ramp. The associated sump pump empties the sump as needed to prevent it from overflowing into the RPL basement through the roll-up door. The sump pump discharges to the street in front of the RPL.

Potentially contaminated fire suppression water runoff from inside the RPL basement could also enter this sump and be pumped to the street in front of the building resulting in an unacceptable spread of contamination.

The local disconnect for the sump pump is located inside the south roll-up door on the east side of the door.

## **9.0 Termination, Incident Recovery, and Restart**

### **9.1 Termination**

The Incident Commander, in consultation with the BED will recommend termination of the event when conditions indicate that it is safe to do so. The Event Closeout Form should be completed before any recommendation is made to terminate a declared emergency.

### **9.2 Recovery**

Depending on the circumstances of the event, a recovery team consisting of the Incident Commander, RPL BED, and appropriate SMEs will develop and recommend a recovery plan for restoring the facility to operable status. Emphasis will be placed on the careful cleanup of released material and contaminated debris to minimize further risk to personnel, the public, or the environment while preserving evidence at the event scene. All waste materials generated by the cleanup will be containerized in drums or other appropriate containers and stored in an approved storage area pending characterization and determination of the final treatment/disposal requirements. The recovery plan will be reviewed and approved and meet the requirements of the PNNL-MA-110, *Emergency Management Plan, Termination and Recovery*.

The BED is responsible for assuring that emergency equipment is clean and fit for its intended use prior to resumption of operations. Equipment used during an incident will be decontaminated (if practicable) or disposed of as spill debris. Decontaminated equipment will be checked for proper operation prior to storage for subsequent use. Consumables and disposed materials will be restocked. Fire extinguishers will be recharged or replaced.

For emergency events involving the TSD or a 90-day accumulation area, the recovery plan will include the appropriate notification of the Washington State Department of Ecology and appropriate local authorities of recovery actions taken prior to restart. The operator of the TSD will also provide a written report to the Department of Ecology within 15 days after the incident or within 30 days after the incident for a release from a tank system to the environment that does not result in an activation of the contingency plan.

#### **9.2.1 Emergency Decontamination Facilities**

The RPL facility has only limited decontamination capability. Radiological control personnel are the only staff that may perform personnel decontamination.

If an evacuation of the RPL facility occurs and re-entry is not possible to decontaminate affected personnel, radiological control supervision may use the 3410 building personnel decontamination facility located in room 1601. In the event that the affected personnel are injured, they should be transported directly to Kadlec Medical Center. If large group decontamination facilities are requested, request assistance from the Hanford Fire Department Mobile Decontamination Facility.

#### **9.2.2 Emergency Radiological Exposure Guidelines**

In extremely rare cases, emergency exposure to radiation may be required to rescue personnel or protect major property. Emergency exposure may be

authorized in accordance with the provisions contained in 10 CFR 835. The dose limits for personnel performing these operations are listed in Table 9.1.

**Note:** Only RadWorker 2 trained staff are allowed to volunteer for receiving emergency radiological exposures.

The lens of the eye dose limit should be three times the listed values. The shallow dose limit to the skin of the whole body and the extremities is ten times the listed values.

*Table 9.1. Emergency Dose Limits*

<b>Dose Limit (Total Effective Dose Equivalent)</b>	<b>Activity Performed</b>	<b>Conditions</b>
5 rem	All	N/A
10 rem	Protecting major property	Only on a voluntary basis where lower dose limit not practicable
25 rem	Lifesaving or protection of large populations	Only on a voluntary basis where lower dose limit not practicable
> 25 rem	Lifesaving or protection of large populations	Only on a voluntary basis to personnel fully aware of the risk involved

### 9.3 Restart

Restart of the facility following emergencies will be conducted in a manner consistent with the recovery plan. Before operations are resumed in the facility, all emergency equipment used during the emergency event shall be cleaned and restored to usable, operable condition. If the event involved a container storage area within the HWTU, the container storage and containment system should be evaluated before restart. If the event involved a tank system leak, repairs must be certified by an independent, qualified, registered professional engineer.

## 10.0 Emergency Equipment

Support equipment available to assist in responding to an emergency can be found by referring to DOE/RL 94-02, Section 11.2 and the Hanford Fire Department emergency equipment listing in Appendix C of 94-02.

### 10.1 Portable Emergency Equipment

None

### 10.2 Fire Control Equipment

- Portable Class ABC Fire Extinguishers are located throughout the facility. Each Class ABC extinguisher is capable of suppressing fires involving ordinary combustible materials, flammable liquids, oils, paints, flammable gases, and fires involving electrical equipment. Class D extinguishers will be located in areas vulnerable to Class D fires if reactive metals are stored there (e.g., dangerous waste storage room). Manual dry chemical fire extinguishers are installed in the SAL hot cells and are available outside the HLRF A and B hot cells. The fire extinguisher locations are identified on the floor plans (Attachments 1-3).
- Portable Class ABC Fire Extinguishers with piercing tips are located in each lab that contains a glovebox. These extinguishers are for the HFD use only. RPL staff have not been trained in their use. The piercing tipped fire extinguisher locations are identified on the floor plans (Attachments 1-3).
- RPL is equipped with an automatic fire detection, alarm, and suppression system. Five wet pipe and one dry pipe sprinkler system provide automatic fire suppression.
- A Mobile Command Post Vehicle can be obtained from the Hanford Fire Department (HFD) at 373-2230. The HFD Battalion Commander will approve and dispatch the vehicle.

### 10.3 Communications Equipment/Warning Systems

- Fire alarm pull boxes are located throughout the facility. The primary locations are at all exits of the facility. All locations are shown on the floor plans (Attachments 1-3).
- Hanford Site Telephone Notification System (TNS) is a component of the Hanford Emergency Notification System and designed to use the existing telephone system to notify individual employees. When the phone is answered, a recorded message will provide event information and inform staff of actions they are expected to take.
- PNNL Communicator Notification System (CNS) is a system that will allow emergency messages to be communicated quickly to all staff via the PNNL phone system. Phones at PNNL in offices, conference rooms, and common areas such as lobbies, conference rooms, and lunchrooms are connected to the system. When the phone is answered a recorded message will provide event information and inform staff of actions they are expected to take.
- A criticality alarm system (CAS) is present in the building. The system is equipped with neutron sensitive criticality detectors. The CAS alarms in locations where the expected dose from an accidental criticality may exceed 12-rads in free air. The

system is tested and maintained in accordance with preventive maintenance procedures.

**Note:** These systems are not considered emergency equipment and may not be available during all types of emergencies.

- Other non-emergency communications equipment installed in RPL include:
  - Public address system. (#8 on select phones)
  - Public address system in the fire alarm control panel.
  - Commercial telephone system that may also be used to summon assistance during an emergency.
  - Hand held radios provided by the BED.

#### **10.4 Personal Protective Equipment (PPE)**

Safety showers and eyewash units are installed at several locations throughout the facility including waste storage areas. All locations are shown on the floor plans (Attachments 1-3).

Personnel protective clothing and respiratory equipment is available in the facility for use during both routine and emergency operations. This equipment includes:

- Chemically resistant suits, aprons, boots, and gloves.
- Protective glasses.
- Chemical goggles.
- Face shields.
- Full-face respirators with extra cartridges.
- Radiological clothing.

Kits containing a variety of radiation monitoring instruments, forms, and equipment are available for use in an emergency. PNNL maintains these kits, which contain protective apparel, instruments, and equipment for personnel decontamination and other immediate emergency needs. These supplies and equipment are only adequate to fulfill immediate needs during the initial stages of an emergency.

#### **10.5 Spill Control and Containment Supplies**

Spill kits are located throughout the facility and are maintained by the CSMs. Additional spill kit materials can be obtained in room 527. The following emergency equipment is maintained in (or adjacent to) each of the 90-day hazardous waste accumulation areas. The amount of material maintained varies depending on the amount of waste being accumulated at the individual 90-day area.

- Commercially available granular absorbent (e.g. diatomaceous earth)
- Absorbent pads
- Commercially available acid neutralizer<sup>1</sup> (e.g. granular sodium bicarbonate)
- Commercially available caustic neutralizer<sup>2</sup> (e.g. dilute boric acid solution)
- Personal Protective Equipment

- Safety glasses with side shields
- Lab coat
- Leather gloves
- Chemical resistant gloves (e.g. nitrile)

<sup>1</sup> Required in accumulation areas containing liquid acidic wastes.

<sup>2</sup> Required in accumulation areas containing liquid caustic wastes.

## 11.0 Evacuation of Persons with a Disability, or Visitors

RPL occupants shall be aware of disabled resident staff that may require evacuation assistance. A specific evacuation plan may be required for disabled staff members. Alternate housing for staff that are sensitive to excessive hot or cold conditions (temperately disabled) may be required due to emergency response actions.

**Note:** Alternate Staging Area – in the event of an extended building evacuation during inclement weather, the 350 building, or other indoor locations deemed safe may be used for housing staff at the discretion of the BED.

Staff members who are planning to bring a disabled visitor to the building shall contact the BED to determine if a specific evacuation plan will be required.

The safety of building visitors is the responsibility of the host, who shall assure that visitors are provided a safe and orderly evacuation. The host shall report the visitor status to the appropriate zone warden as soon as is practical, after the evacuation.

## 12.0 Emergency Action Levels

### 12.1 300 Area Protective Actions

300 Area Onsite Protective Actions		
Classification	Action	Implemented by
Alert	<ul style="list-style-type: none"> <li>Evacuate or shelter affected facility personnel.</li> </ul>	Facility
	<ul style="list-style-type: none"> <li>Shelter 300 Area and 600 Area.</li> <li>Initially restrict access at:                             <ul style="list-style-type: none"> <li>WNP 1 Access Road and Route 4S.</li> <li>George Washington Way Extension (to 300 Area) intersection with George Washington Way.</li> <li>George Washington Way intersection with Stevens Drive. (Roadblocks can be relocated based upon consequence assessment upon approval by the IC/SED.)</li> </ul> </li> </ul>	POC (Quick Reaction Checklist)
Site Area/ General Emergency	<ul style="list-style-type: none"> <li>Evacuate or shelter affected facility personnel.</li> </ul>	Facility
	<ul style="list-style-type: none"> <li>Shelter 300 Area, HAMMER, Patrol Training Academy, Cold Test Facility, and adjacent 600 Areas.</li> <li>Restrict access at:                             <ul style="list-style-type: none"> <li>WNP 1 Access Road and Route 4S.</li> <li>Horn Rapids intersection with George Wash. Way.</li> <li>Horn Rapids intersection with Stevens Drive.</li> </ul> </li> </ul>	POC (Quick Reaction Checklist)
	<ul style="list-style-type: none"> <li>Plan for subsequent 300 Area evacuation as required.</li> </ul>	Hanford EOC
300 Area Offsite Protective Actions & Recommendations		
Classification	Action	Implemented by
Alert	<ul style="list-style-type: none"> <li>None</li> </ul>	N/A
Site Area Emergency	<ul style="list-style-type: none"> <li>Implement evacuation of Columbia River from Vernita Bridge to Leslie Groves Park</li> <li>Close Highway 240.</li> </ul>	POC and Counties (RLEP 3.3)  Washington State Patrol (RLEP 3.8, Appendix H)
General Emergency	<ul style="list-style-type: none"> <li>Implement evacuation of Columbia River from Vernita Bridge to Leslie Groves Park/.</li> <li>Evacuate 2.2-mile radius.</li> <li>Close Highway 240.</li> </ul>	POC and Counties (RLEP 3.3)  Benton/Franklin Counties  Washington State Patrol (RLEP 3.8, Appendix H)

### 12.2 RPL Emergency Action Levels

The Emergency Action Level (EAL) Tables are published in DOE-0223, *Emergency Plan Implementation Procedure for RPL*, and can be obtained from the RPL Building Manager.

### **13.0 Attachments**

Attachment 1 – Emergency Equipment & Evacuation Routes - 1<sup>st</sup> Floor

Attachment 2 – Emergency Equipment & Evacuation Routes – 2<sup>nd</sup> & 3<sup>rd</sup> Floors

Attachment 3 – Emergency Equipment & Evacuation Routes – Mezzanine & Basement

Attachment 4 – Zone Warden Areas – 1<sup>st</sup> Floor

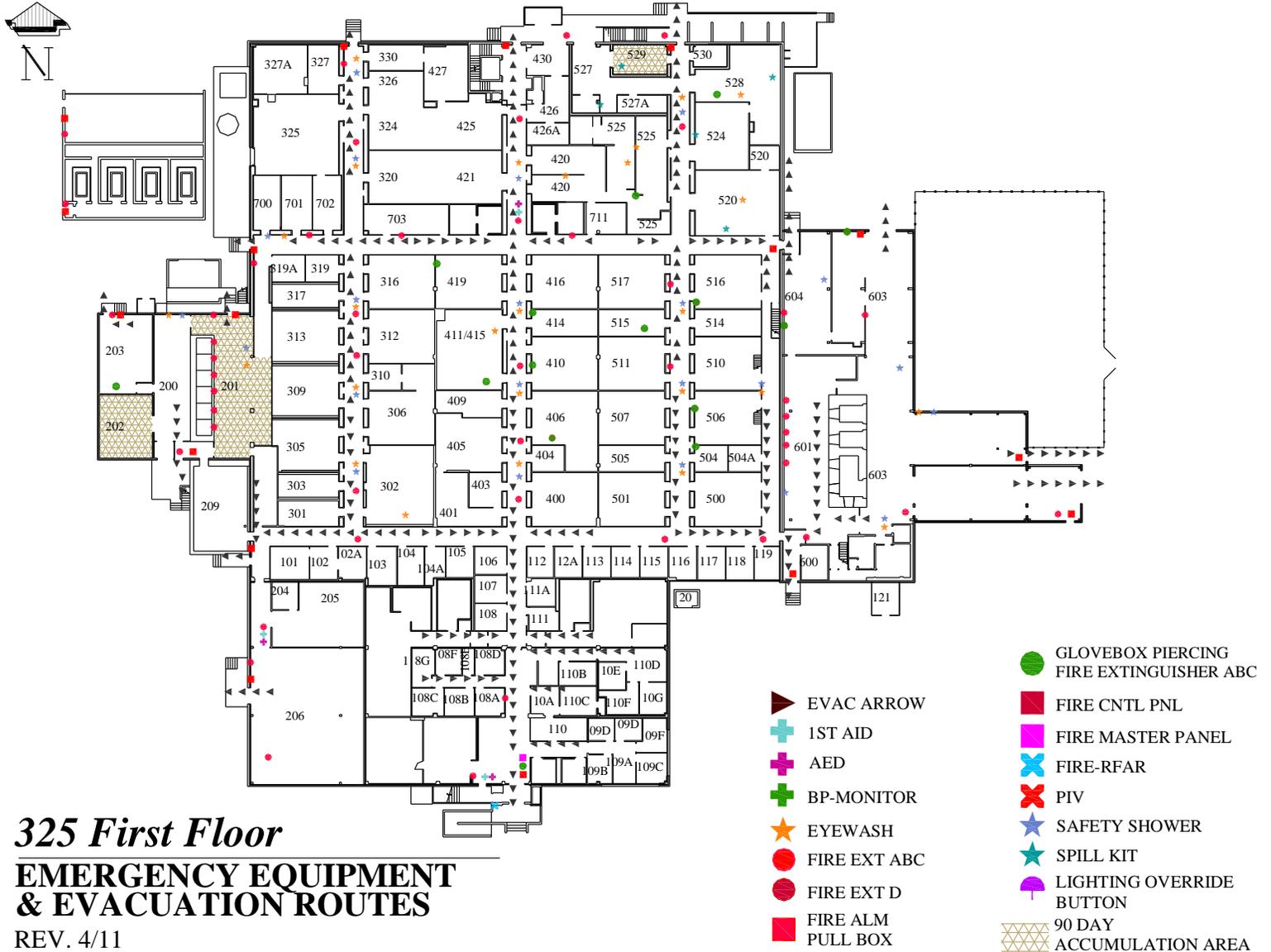
Attachment 5 – Zone Warden Areas – 2<sup>nd</sup> & 3<sup>rd</sup> Floors

Attachment 6 – Zone Warden Areas – Mezzanine & Basement

Attachment 7 – Staging Area Map

Attachment 8 – Location of RPL in the 300 Area

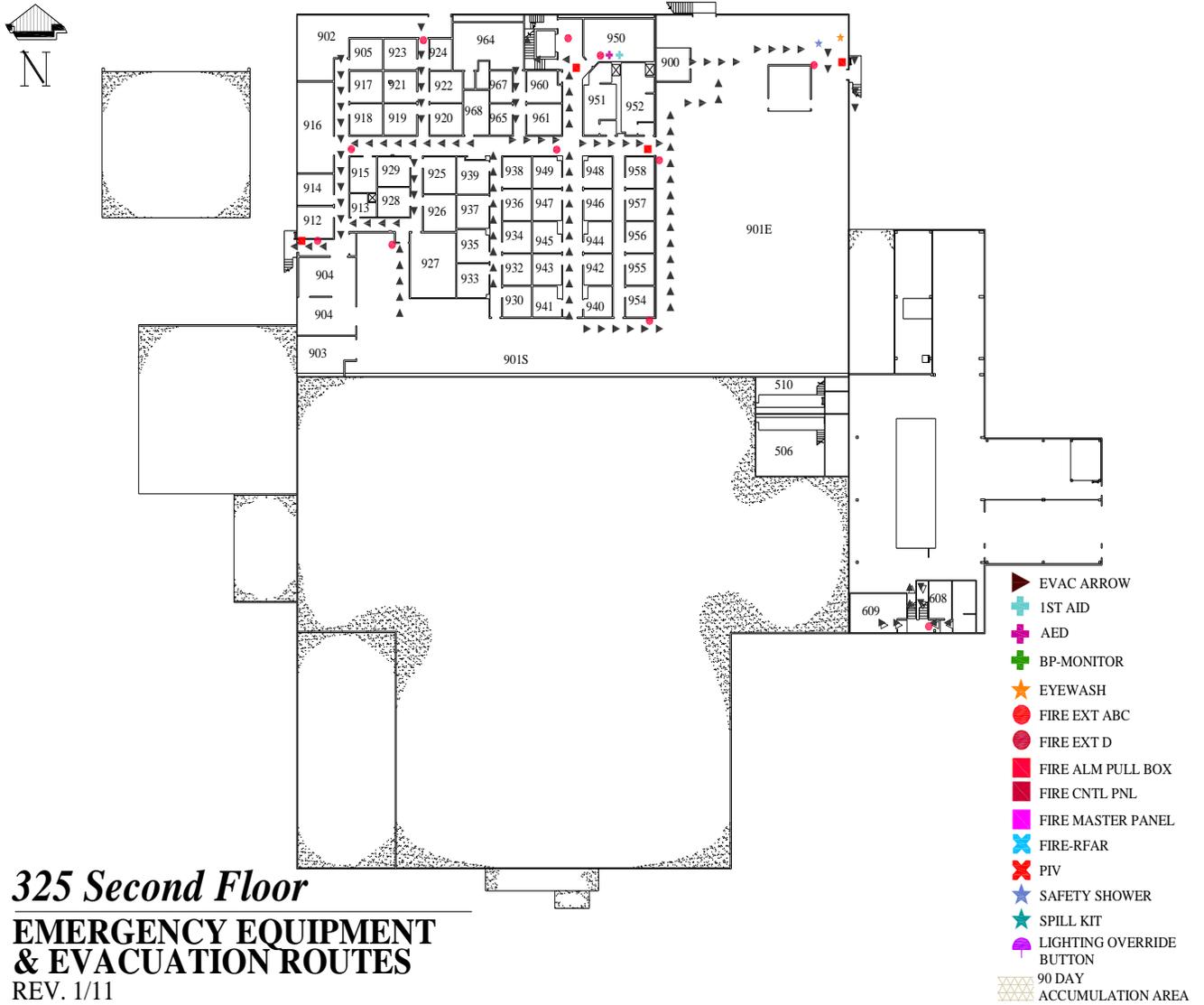
## Attachment 1 – Emergency Equipment & Evacuation Routes - 1st Floor



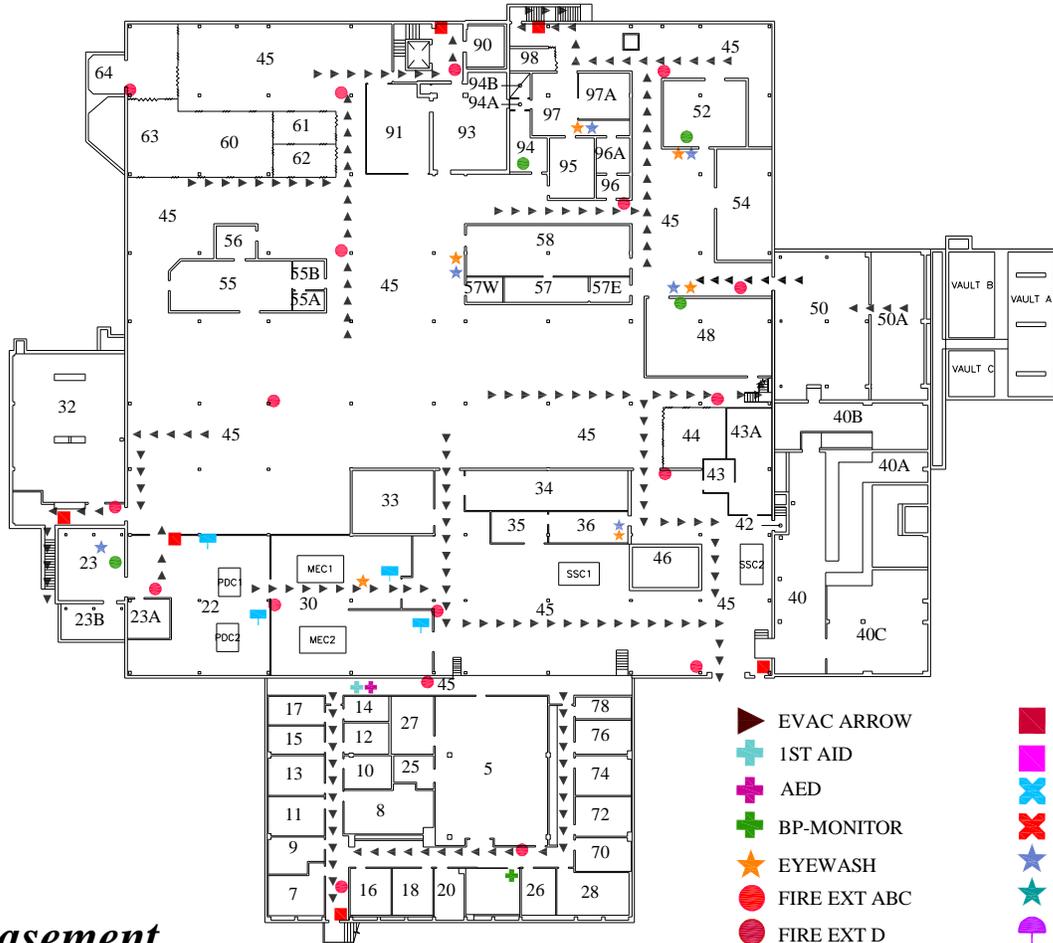
### 325 First Floor EMERGENCY EQUIPMENT & EVACUATION ROUTES

REV. 4/11  
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## Attachment 2 – Emergency Equipment & Evacuation Routes - 2nd & 3rd Floors



## Attachment 3 – Emergency Equipment & Evacuation Routes - Mezzanine & Basement



### 325 Basement EMERGENCY EQUIPMENT & EVACUATION ROUTES

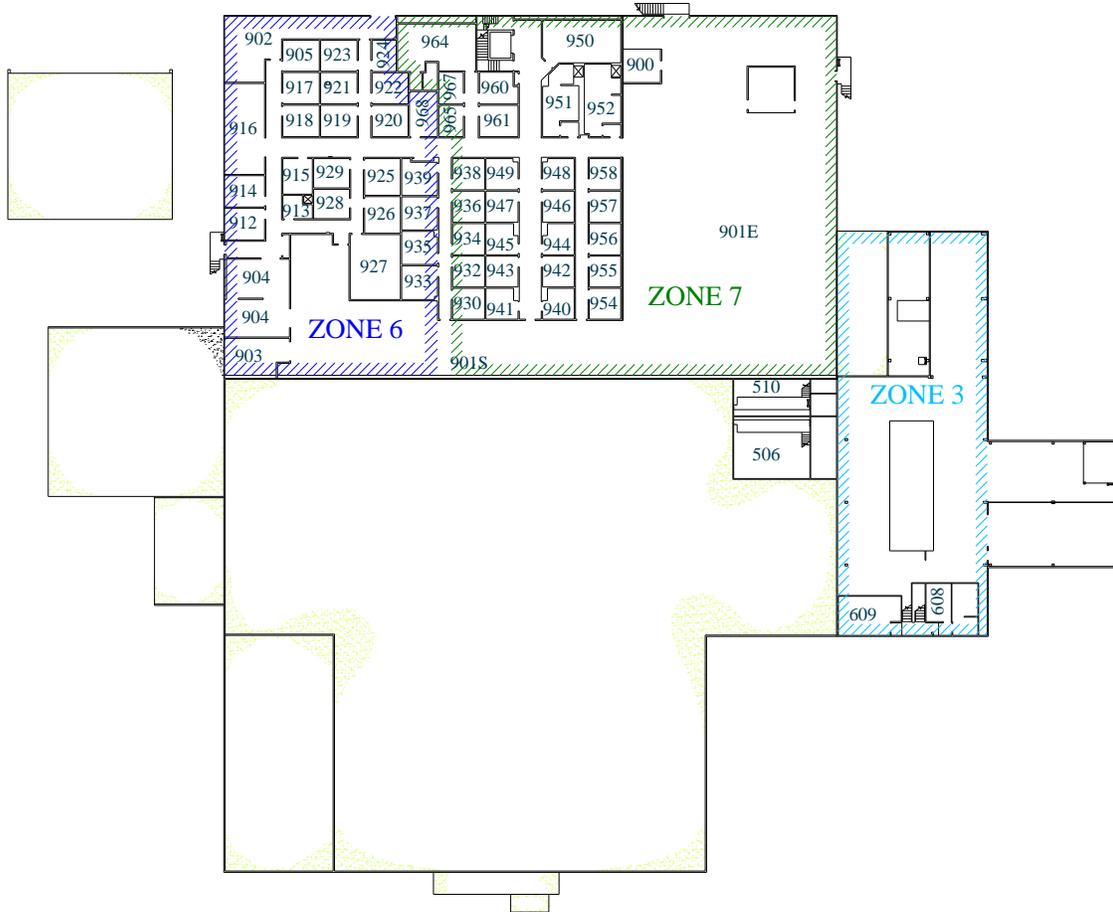
REV. 1/11

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- |  |                                         |  |                                                    |
|--|-----------------------------------------|--|----------------------------------------------------|
|  | EVAC ARROW                              |  | FIRE CNTL PNL                                      |
|  | 1ST AID                                 |  | FIRE MASTER PANEL                                  |
|  | AED                                     |  | FIRE-RFAR                                          |
|  | BP-MONITOR                              |  | PIV                                                |
|  | EYEWASH                                 |  | SAFETY SHOWER                                      |
|  | FIRE EXT ABC                            |  | SPILL KIT                                          |
|  | FIRE EXT D                              |  | LIGHTING OVERRIDE BUTTON                           |
|  | FIRE ALM PULL BOX                       |  | 90 DAY ACCUMULATION AREA                           |
|  | GLOVEBOX PIERCING FIRE EXTINGUISHER ABC |  | MANUAL ACTUATOR FOR HOT CELL FIRE EXTINGUISHER SYS |



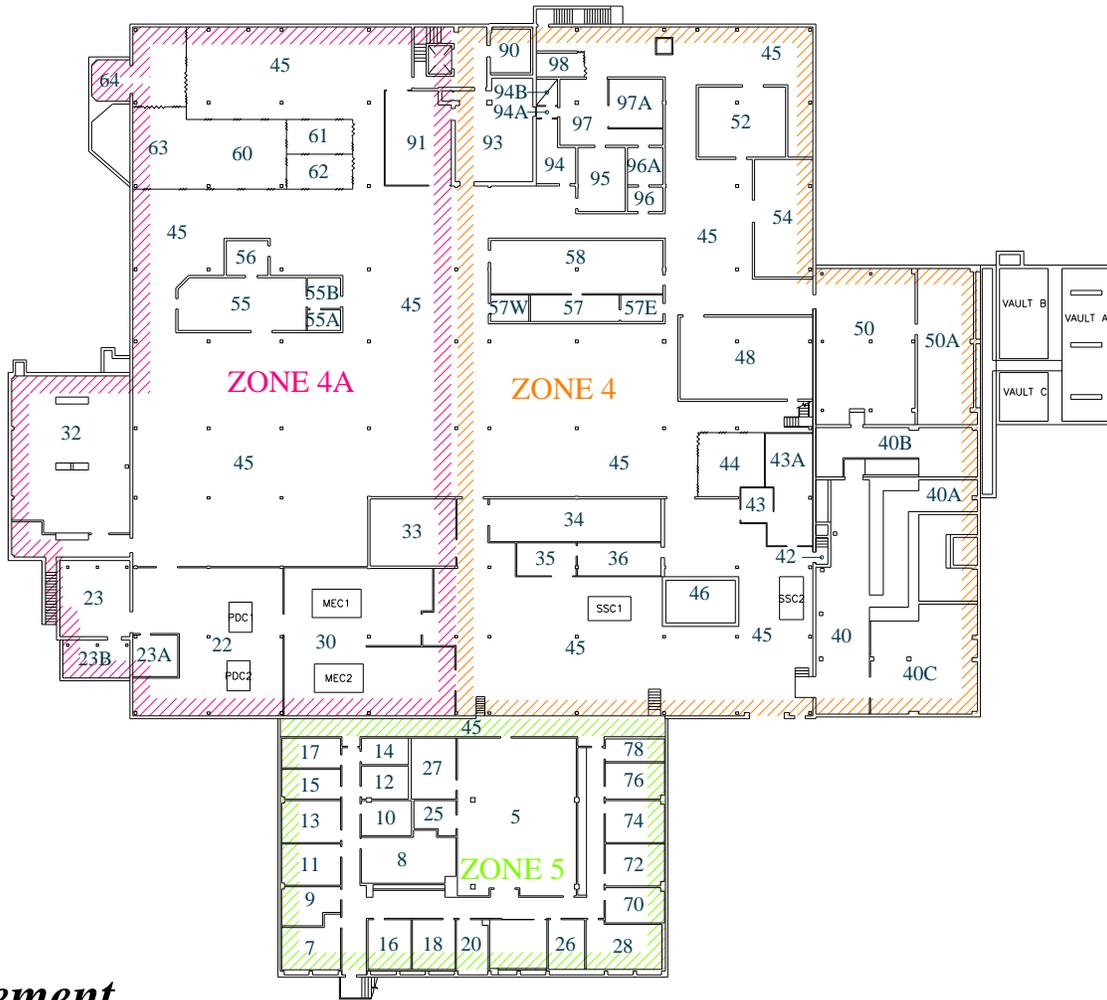
### Attachment 5 – Zone Warden Areas – 2<sup>nd</sup> & 3<sup>rd</sup> Floors



## ***325 Second Floor*** **ZONE WARDEN MAP**

REL. 5/10

### Attachment 6 – Zone Warden Areas – Mezzanine & Basement

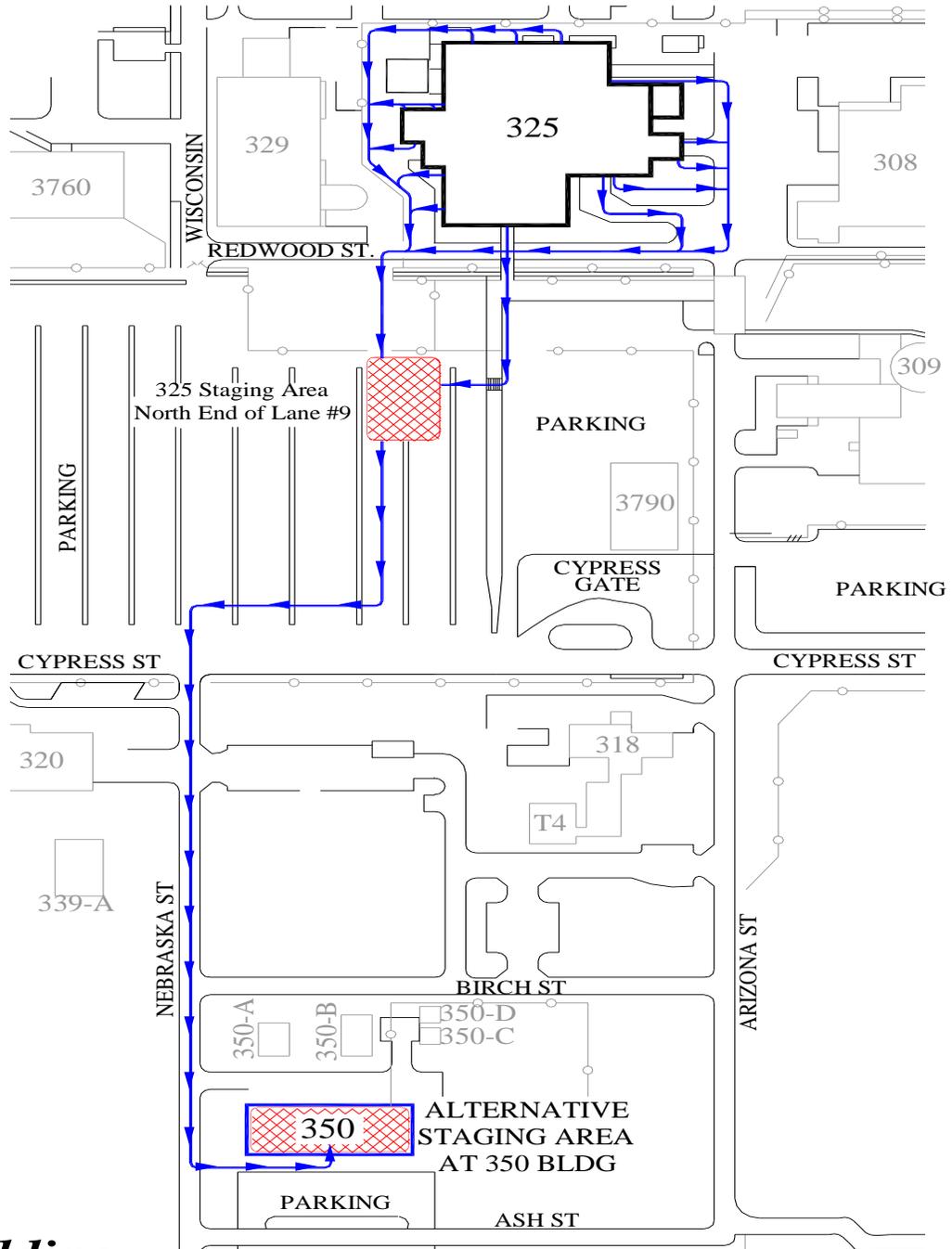


## 325 Basement ZONE WARDEN MAP

REV. 5/10

Shama Anderson \* Engineering & Design Services

### Attachment 7 – RPL Staging Area Map



# ***325 Building*** **EMERGENCY EVACUATION ROUTES & ALTERNATE STAGING AREA**

### Attachment 8 – Location of RPL in the 300 Area



## 14.0 References and Source Requirements

ADM-001, *Document Production and Distribution*

ADM-EPIP-7.0, *PNNL Incident Command System and Incident Response*

ADM-EPIP-7.2, *Management Support Group*

DOE-0223, *RL Emergency Implementing Procedures – Applicable to PNNL-Managed Facilities on the Hanford Site*

DOE/RL-94-02, *Hanford Emergency Response Plan – Applicable to PNNL Managed Facilities and Activities on the Hanford Site*

HDI, *Emergency Preparedness*

HDI, *Injury or Illness*

HDI, *Responding to Spills, Exposure Incidents, or Material Loss*

HDI, *Workplace Substance Abuse*

PNNL-DSA-325, *Radiochemical Processing Laboratory Documented Safety Analysis*

PNNL-EAL-RPL, *Emergency Action Level Tables for the RPL*

PNNL-MA-110, *PNNL Emergency Management Plan*

RCP-8.1.02, *Quick Sort Survey of Personnel*

### 14.1 Emergency Preparedness Checklists

14.1a [BED Hazardous Material Facilities \(RPL\) Checklist](#)

14.1b [Chemical Hazard Assessors Checklist](#)

14.1c [Event Closeout Form](#)

14.1d [Facility Operations Specialist \(FOS\) Checklist](#)

14.1e [Hazards Communicator Checklist](#)

14.1f [Incident Command Post Communicator Checklist](#)

14.1g [Incident Manager Checklist](#)

14.1h [Radiological Hazard Assessors Checklist](#)

14.1i [RPL Staging Area Supervisor Checklist](#)

14.1j [PNNL Emergency Evacuation Report Form](#)

### Procedure Revision History

Date	Rev. #	Description
4/01/03	0	<ul style="list-style-type: none"> <li>• Revised and edited for annual update, including insertion of history page.</li> </ul>
7/30/03	0	<ul style="list-style-type: none"> <li>• Made the following name changes to the RPL BEP and distributed changes to all holders of controlled copies:               <ol style="list-style-type: none"> <li>1. In Exhibit 12.1 on page 52 change the MSG Lead 1st and 2nd alternates to Larry Maples and Reed Sharp respectively.</li> <li>2. Change the primary warden for Zone 4 to Todd Haynie, 372-3067.</li> <li>3. Change the secondary warden for zone 4A to Todd Haynie, 372-3067.</li> <li>4. In Table 14.a on page 59, change the 90-Day Storage Emergency Contact to Raymond D. Bell, Work Phone: 376-2321, Cell Phone: 521-4505.</li> </ol> </li> </ul>
9/03/03	0	Replaced Larry Page with Tracy Eaton on pages 52 and 57.
9/11/03	0	Replaced Shane Loper with Greg Varljen as Secondary Zone Warden for Zone 4 and Primary Zone Warden for Zone 4A on pages 56 and 57.
9/30/03	0	Insert Maria Olivarez as the 1 <sup>st</sup> Alternate for Assisting Communicator and the ICP Recorder in Exhibit 12.1. (sma)
11/17/03	0	Change William Buyers' cellular telephone number to his current number. (sma)
11/21/03	0	Replaced Katherine Carson with Darlene Winter as Primary Zone Warden and replaced Tracy Eaton with Katherine Carson as Secondary Zone Warden for Zone 7 on page 57. (sma)
3/30/04	0	Annual BEP update (nem-m)
5/6/04	0	Update Evacuation Routes – 2 <sup>nd</sup> and 3 <sup>rd</sup> Floors map, correction of room numbers. (sma)
7/7/04	0	<p>Made the following change to section 9.2.1 Emergency Decontamination Facilities:            The RPL Facility Personnel Decontamination Room is located in Room 606 has only limited decontamination capability (a small sink). Radiological Control Personnel are the only staff that may perform Personnel Decontamination. The decontamination shower in this room is out of service.</p> <p>If an evacuation of the RPL Facility occurs and re-entry is not possible to decontaminate affected personnel, Radiological Control Supervision may use the 329 Building Personnel Decontamination Facility. In the event that affected personnel are injured, they should be transported directly to Kadlec Medical Center. If large group decontamination facilities are required, request assistance from the Hanford Fire Department Mobile Decontamination Facility. (lef)</p>
8/11/04	0	<ul style="list-style-type: none"> <li>• Replace Tracy Eaton with Jason Armstrong as ICP Hazards Communicator.</li> <li>• Remove Stan Jones as BED and ICP Communicator Alternates. Also on Exhibit 12.2.1.</li> <li>• Remove Teresa Schlotman as the Primary SAS and move the alternates up one step.</li> <li>• Put Andrea Kwiecinski in as Primary ICP recorder and move Bob and Maria to alternates.</li> <li>• Remove Abby Nicholson and Scott Nickerson as ICP Chemical Hazards Assessor alternates.</li> <li>• On Exhibit 12.2.4, Change “RPL Facility Project Manger” to “Nuclear Work Team Leader” and add Environmental Compliance Rep. as John Holland in the Waste Management block.</li> <li>• Replace Wayne Larson as TSD POC (Table 14.a) and replace with Ron Del Mar. (lef)</li> </ul>
8/25/04	0	Fix name spelling of Andrea “Kwiecinski” as ICP Recorder (lef)
9/28/04	0	<ul style="list-style-type: none"> <li>• Made the following name changes to the RPL BEP and EIPs:</li> <li>• Change assisting Communicator to Maria Olivarez, remove alternates</li> </ul>

Date	Rev. #	Description
		<ul style="list-style-type: none"> <li>• Change ICP Chemical Hazards Assessor to Kevin Sheffield.</li> <li>• Change ICP Communicator to Holly Black-Kania.</li> <li>• Change MSG Recorder (1st Alternate) to Mary Bradshaw.</li> <li>• Zone Warden changes: Zone 4A primary to Matthew Fountain; Zone 6 Secondary: Joyce McGuffey ; Zone 7 Primary : Gregg Lumetta, Secondary : Clark Lindenmeier ; Zone 9 Secondary ; Paul Bredt : Move the North Dock/Cylinder Storage Area from Zone 2 to Zone 7.</li> <li>• Staging Area Supervisor; Move Bob Schumacher to 2nd Alternate and put Debra Coffey as the 1st Alternate.</li> <li>• Throughout document, change PNNL SPC or PNNL Single Point Contact to PNNL Operations Center.</li> <li>• Change RPL Facilities Project Manager to Nuclear Work Team Leader.</li> <li>• Change RPL Building Ventilation &amp; Power Operations Supervisor to Utility Operations Work Team Leader.</li> </ul>
10/19/04	0	Remove 43, 45, 63, 517, and 601 from the list of 90-day waste accumulation sites from the second paragraph in section 3.6 on the bottom of page 16. Also change the 1 <sup>st</sup> Alternate MSG Recorder to Laura Fuher. (lef)
11/01/04	0	Replace HEHF with new Hanford medical contractor AMH. Update ICP Hazards Assessor: 1-Todd Haynie, #2- Kevin Sheffield (lef)
3/21/05	1	<p>2005 Annual Update:</p> <ol style="list-style-type: none"> <li>1. Standardized appearance of the word AH-OO-GAH throughout the BEP.</li> <li>2. Section 2. Added Acronyms section.</li> <li>3. Section 3.1.1, added information on preservation of evidence to BED responsibilities. Added Testing Designated Position (TDP) requirement to BED position responsibilities.</li> <li>4. Section 3.2.1, added TDP requirement to the ICP position responsibilities.</li> <li>5. Section 3.2.8, added TDP requirement to the MSG Lead position responsibilities.</li> <li>6. Section 3.2.5, Created new description for MSG Liaison duties. Renumbered remaining sections in chapter.</li> <li>7. Section 3.2.8, added the words criticality alarms in zone warden indication of hazards.</li> <li>8. Section 3.2.9, added TDP requirement to the FOS position responsibilities.</li> <li>9. Section 3.3, Individual Staff Responsibilities, added information regarding discarding PPE on building evacuations and PCM use for fire/criticality.</li> <li>10. Sections 5.5 Criticality, added editorial comment.</li> <li>11. Section 6.1.1, item 3, added "If the RPL has a loss of electrical power and Standby Power is still available, assemble in the Lunch Room. Personnel exiting Radiological Buffer Areas do so without surveying through the PCMs. If personnel are wearing Personal Protective Equipment (PPE) clothing, are suspected of being contaminated, or have exited a Radiological Buffer Area, isolate them from other building occupants and request they be surveyed by Radiological Control Personnel.             <ol style="list-style-type: none"> <li>a. Refer to Section 6.1.11 for Reduced Ventilation Flows.</li> </ol> </li> <li>12. Section 6.1.10, Criticality, removed the last sentence from item 3, bullet 1.</li> <li>13. Section 6.1.10 new item 3: Personnel exiting Radiological Buffer Areas do so without surveying through the PCMs. If personnel are wearing Personal Protective Equipment (PPE) clothing, are suspected of being contaminated, or have exited a Radiological Buffer Area, isolate them from other building occupants and request they be surveyed by Radiological Control Personnel.</li> <li>14. Section 6.3 Natural Phenomena, to each event added the words "If evacuating the facility, have 375-2400 report the evacuation to the ONC (376-2900)."</li> <li>15. Section 8. Utility Disconnects: Added information on the Ramp Sump Pump local disconnect location.</li> <li>16. Exhibit 12.1, Updated BERO members. Added new position of MSG Liaison</li> <li>17. Section 12.2.1, Updated BED name (David Clark) and phone numbers. Added Bill</li> </ol>

Date	Rev. #	Description
		<p>Buyers contact info as 2<sup>nd</sup> alternate BED. Added and * to TDP positions with the note to coordinate changes in these positions with the TDP Administrator.</p> <p>18. Section 12.2.4, Added MSG Contact name and phone number to the emergency contact list.</p> <p>19. Exhibit 12.4, BED Checklist –</p> <ul style="list-style-type: none"> <li>a. Step 1, added requests for Hanford Fire department and Hanford Patrol for certain events. RLEP 1.1, Checklist 3.1 consistency.</li> <li>b. Step 2, added additional equipment to note regarding building evacuation due to bomb threats. RLEP 1.1, Checklist 3.1 consistency.</li> <li>c. Step 2, added new bullet regarding actions for evacuation while under a take cover. RLEP 1.1, Checklist 3.1 consistency.</li> <li>d. Step 6, added info regarding transportation events and event classification. Also added box with RCRA criteria. RLEP 1.1, Checklist 3.1 consistency.</li> <li>e. Step 8, minor wording change. RLEP 1.1, Checklist 3.1 consistency.</li> <li>f. Step 12 (new) regarding preservation of evidence at event scene. RLEP 1.1, Checklist 3.1 and MA-110, Exhibit A.16 consistency.</li> <li>g. Renumbered all steps after 12.</li> </ul> <p>20. Exhibit 12.5, ICP Communicator Checklist-</p> <ul style="list-style-type: none"> <li>a. Inserted new step 5, related to actions required if event does NOT reach EAL criteria. PNNL-MA-110, Exhibit A.17 consistency.</li> <li>b. Renumbered remaining steps.</li> <li>c. Step 15, editorial change coy to copy.</li> </ul> <p>21. Exhibit 12.6, ICP Hazard Assessor Checklist</p> <ul style="list-style-type: none"> <li>a. Step 3, minor editorial change, RLEP 1.1, Checklist 3.9 consistency.</li> <li>b. Step 8, minor editorial change, RLEP 1.1, Checklist 3.9 consistency.</li> <li>c. Part 2, Step 8, added not regarding decision to transport injured and contaminated personnel. RLEP 1.1, Checklist 3.9 consistency.</li> </ul> <p>22. Exhibit 12.7, Staging Area Supervisor Checklist-</p> <ul style="list-style-type: none"> <li>a. Step 2, Revised Warning regarding use of additional electronic equipment in bomb threats. RLEP 1.1, Checklist 3.11 consistency</li> <li>b. Added new step 7 to query staff regarding medications or medical conditions of which the BED needs to be made aware. Renumbered remaining steps. Change requested by SAS.</li> <li>c. Added new step to remind SAS to have RHA confirm habitability of staging area and ICP.</li> </ul> <p>23. Exhibit 12.10, MSG Checklist</p> <ul style="list-style-type: none"> <li>a. Added a step to have the MSG Liaison get safe route of travel and be dispatched to ICP.</li> <li>b. Added new step for notifying BMI.(Their emergency number is (614) 424-4444)</li> <li>c. Added new step related to preservation of evidence.</li> </ul> <p>24. Exhibit 12.11, Facility Operation Specialist Checklist</p> <ul style="list-style-type: none"> <li>a. Step 2, added statement to remind FOS to communicate location of event scene operations to the BED. RLEP 1.1, Checklist 3.13 consistency.</li> </ul> <p>25. Exhibit 12.13, ICP Hazard Communicator checklist-</p> <ul style="list-style-type: none"> <li>a. Step 2 and 3, added shading to text boxes. RLEP 1.1, Checklist 3.10 consistency.</li> <li>b. Added new step 5 to provide PNNL exposure evaluator number for the hazard communicator if needed.</li> </ul> <p>26. Exhibits 13.5, 6, 7 added new emergency equipment maps from the MIT.</p> <p>27. Exhibit 14.a, 300 Area Protective Actions, revised table per RLEP 1.1, Appendix C,</p>

Date	Rev. #	Description
		added 300 Area offsite Protective Actions & Recommendations. (nmm/lef)
4/15/05	1	Fixed page numbering to start at page 2 on second page. Updated Bill Buyers phone number to 376-5612, and changed Jeff Rencken as Facility Operations Specialist and Zone warden to Ed Arel. lef
6/13/05	1	Updated BERO contact names & numbers on pages 54-55, changed the MSG Support Lead to Mike Moran on page 62. (lef)
8/22/05	1	Updated ICP Hazards Communicator- Primary/Jack Horne and Alternate/Lindsay Nelson. Updated ICP Hazard Assessor/Radiological – Primary/Bob Free and Alternate/Jack Horne. Updated Zone Wardens: Zone 4A Alternate – Don Kelly; Zone 7 Alternate – Mike Lindberg; and Zone 9 Primary – Lewis Hogan. On page 49, section 9.2.2, added Note: Only Rad Worker 2 trained staff are allowed to volunteer for receiving emergency radiological exposures. lef
9/9/05	1	On page 60, replaced Todd Haynie as Zone Warden for Zone 4A and Industrial Hygiene/Occupational Safety with Don Kelly on page 62, and added Don’s cell phone. lef
9/13/05	1	Updated Rad Hazards Assessors to Lindsay Nelsen (primary) and Rob Sitsler (secondary) and Hazards Communicators Jack Horne (primary), Holly Black-Kania (1 <sup>st</sup> Alternate) and Forrest Bronson (2 <sup>nd</sup> Alternate). lef
9/26/05	1	Updated the “300 Area Protective Actions” section 14.1 per TL Bettendorf “the RLEP has changed”. Added Table of Contents. Fixed spelling error for Deborah Coffey, SAS Secondary. lef
11/7/05	1	<p>Page 36 - Updated Section 6.1.8 #2a, per TL Bettendorf:</p> <ul style="list-style-type: none"> <li>• Move personnel from affected area to a safe location.</li> <li>• If the health and safety of the building occupants is such that a building evacuation is necessary, pull the fire alarm.</li> <li>• Notify the PNNL Operations Center at 375-2400.</li> <li>• Notify the Safety and Health Representative.</li> </ul> <p>Page 64, Section 12.2.4, Table 14.a per DE Clark:</p> <ul style="list-style-type: none"> <li>• New 90-day Storage Area SFO: Greg Varljen;</li> <li>• New 90-Day Storage Non-SFO Mark Vucelick. (lef)</li> </ul>
2/2006	2006	<ul style="list-style-type: none"> <li>• Reformatted per F&amp;O guidelines.</li> <li>• Added Cindy Caldwell as Safety &amp; Health approval signature.</li> <li>• Clarified the acronyms throughout the document.</li> <li>• Updated SPC to PNNL Operations Center throughout the BEP.</li> <li>• Section 1.6, added a building specific alarm for Hot cell DP at Randy Thornhill and Randy Scheele’s request to standardize HLRF response procedures.</li> <li>• Replaced DOE-RL throughout the document with DOE.</li> <li>• Section 3.2.8, clarified that responses apply to ZW alternates also.</li> <li>• Section 3.3, Clarified where individuals can find the electronic copy of the RPL BEP.</li> <li>• Section 6.1.5.1, added a bullet regarding need to notify the Environmental Support Contact to perform appropriate notifications to the Department of Ecology for a major tank spill.</li> <li>• Section 6.1.9, added clarification that various alarms may occur on Radiological Material Release.</li> <li>• Section 6.3, editorial change.</li> <li>• Section 6.4.2 “Hostage Situation/Armed Intruder/Violence in the Workplace” added information based on drills from violence in the workplace.</li> <li>• Section 7.5, corrected location of the air compressor isolation valve.</li> <li>• Section 7.9, corrected location of the local disconnect switch for RPL ramp sump pump.</li> <li>• Section 8.2. Added clarification for the need to notify the Dept of Ecology within 30 days after an incident involving a release from a tank system to the environment that does not result in an activation of the contingency plan.</li> <li>• Attachment 13.1, update BERO listing to new members.</li> </ul>

Date	Rev. #	Description
		<ul style="list-style-type: none"> <li>• Attachment 13.1, updated BED (Francis Buck), 1<sup>st</sup> Alt BED (Bill Buyers), 2<sup>nd</sup> Alternate N/A.</li> <li>• Attachment 13.1, updated ICP Communicator adding Karla Smith as Primary Responder; Robert Schumacher as 1<sup>st</sup> Alternate and Francis Buck as 2<sup>nd</sup> Alternate.</li> <li>• Attachment 13.5, updated names for ZW assignments.</li> <li>• Attachment 13.6, New Staging Area Supervisor- Deborah Coffey, 1<sup>st</sup> Alternate- Karla Smith, 2<sup>nd</sup> Alternate-N/A.</li> <li>• Attachment 13.7, added the secondary phone line number for the PNNL Operations Center.</li> <li>• Exhibit 13.13 – Handling of Radiologically Contaminated/Deceased Worker Checklist, added a step to verify the appropriate DOE Facility Representative has been notified. (nmm)</li> <li>• Added Zone Warden Area maps and updated other building MIT maps.</li> <li>• SES: RPL-2006-021D. FG Buck. (lef)</li> </ul>
4/25/06	2006	<ul style="list-style-type: none"> <li>○ Update FG Buck cell phone: 528-0141 and WT Buyers cell phone 521-0217.</li> <li>○ Page 65; Deleted Forrest Bronson as ICP Hazards Communicator. Replaced Jack Horne/ICP Hazards Assessor (Radiological)/Primary with Bob Free. Jack Horne is now 1<sup>st</sup> Alternate and Holly Black-Kania is 2<sup>nd</sup> Alternate.</li> <li>○ Page 65: ICP Hazards Communicator: Lindsay Nelson/Primary and Rob Sitsler/1<sup>st</sup> Alternate.</li> <li>○ Replaced MSG Checklist with current checklist from the EP Office, per TL Bettendorf. (lef)</li> </ul> CE: RPL-2004-194D. USQE FG Buck.
8/10/06	2006	<ul style="list-style-type: none"> <li>• Update 1<sup>st</sup> Alternate BED to Sanjay Sanan.</li> <li>• Deleted home phone number for Lori Ashbeck</li> <li>• Updated Management Support Group Contact: RD Sharp(lef)</li> </ul> CE: RPL-2004-194D. USQE/FG Buck.
10/24/06	2006	<ul style="list-style-type: none"> <li>• Fixed spelling and grammar errors, web link errors, Attachment numbers, and font sizes throughout document.</li> <li>• Attachment 13.1 – New Assisting Communicator #1 – Lori Ashbeck. New ICP Hazards Communicators: 1- Jack Horne, 2 – Bob Free, and 3 – Rob Sitsler. New ICP Hazards Assessors – 1- Bob Free, 2- Jack Horne, and 3- Holly Black-Kania.</li> <li>• Attachment 13.7 - New MSG Contact – Reed Sharp.</li> <li>• CE: RPL-2004-194D. FG Buck/USQE 10/24/06</li> </ul>
1/10/07	2006	Updates to the BERO staff, Waste Management, and Communicators are as follows: <i>Primary: Assisting Communicator: Lori Arel (W:376-3611, H:734-1574)</i> <i>2nd Alternate ICP Hazards Communicator: Terry Milham (Work: 376-0700)</i> <i>1st Alternate ICP Recorder: Lori Arel (W: 376-3611, H: 734-1574)</i> <i>Zone 4A Primary: Ron Del Mar (376-2822)</i> <i>Zone 5 Primary: Lewis Hogan (372-1427)</i> <i>Zone 8: Secondary: John Logan (376-1382)</i> <i>Zone 9: Primary: John Logan (376-1382)</i> <i>1st Alternate Staging Area Supervisor: Jeff Andrie (376-0502)</i> <i>2nd Alternate Staging Area Supervisor: Teresa Schlotman (376-3206)</i> <i>Under Waste Management: Remove Greg Varljen, <u>Add Ron Del Mar</u> (W:376-2822, C: 530-8308)</i> CE: RPL-2004-194D. FG Buck/USQE
2/5/07	2007-1	Annual BEP Update: <ul style="list-style-type: none"> <li>• Pg. 5, editorial correction, second paragraph, “whose”</li> <li>• Pg. 9, deleted last sentence in paragraph 1.7. Incorrect statement.</li> <li>• Throughout the BEP deleted specific section reference number to PNNL-MA-110. MA-110 has been revised and all the references are now out of date. Removing section references will allow changes to be made to PNNL-MA-110 without requiring BEP</li> </ul>

Date	Rev. #	Description
		revision. (pgs, 12, 21, 46) <ul style="list-style-type: none"> <li>• Pg 14, added a responsibility to the BED Section 3.1 for planning conducting and documenting emergency drills per MA 110 requirements.</li> <li>• Pg 41, updated the step 2 of the Bomb Threat actions per RLEP 1.1</li> <li>• Pg 48, Section 9.1 first bullet, revised wording related to location of Class D fire extinguishers if reactive metals are present.</li> <li>• Pg 63, Updated drawing to show building removals and be consistent with TSD maps.</li> <li>• PG 65, new Alternate Assisting Communicator and Primary ICP Recorder- Terri Mars. 2<sup>nd</sup> Alternate ICP Hazards Communicator: Woody Buckner. 1<sup>st</sup> Alt Staging Area Supervisor- Juai Jao and 2<sup>nd</sup> Alternate – Karl Pool.</li> <li>• Pg 72, replaced Terri Mars/TSD contact with JK Larsen.</li> <li>• Pg 73, Nuclear Work Team Leader cell phone correction 521-6072 and deleted the pager.</li> <li>• Throughout all the checklists, revised RL to Hanford as appropriate. RLEP's refer to everything as Hanford vs. RL now. (e.g., RL Notification Form is now the Hanford Emergency Notification form.)</li> <li>• Pg 79, BED Checklist step 19, revised wording for personnel health advocate notification per RLEP 1.1, and corrected attachment number to 13.13.</li> <li>• Pg 79, Step 20, added IC or the Liaison Officer, RLEP 1.1 consistency and correct attachment number 13.13.</li> <li>• Pg 79, Step 23, corrected attachment number to 13.18, relocated the note regarding event closeout to step 23.</li> <li>• Pg 81, ICP Communicator Checklist, step 3, revised Hazard Assessors to Hazard Communicator, RLEP 1.1 consistency.</li> <li>• Pg 81, ICP Communicator Checklist, reformatted sub step to A.</li> <li>• Pg 84, Attachment 13.10 Removed ICP from Hazard Assessors checklist title. RLEP 1.1 consistency.</li> <li>• Pg 88, SAS Checklist, editorial change to note in step 2.</li> <li>• Pg 88, Step 4 added note regarding injured personnel. RPL Drill Security 07-02 corrective action.</li> <li>• Pg 91, Attachment 13.13, editorial change, RLEP consistency.</li> <li>• Pg 96, Deleted duplicate steps from the MSG checklist.</li> <li>• Pg 98, FOS checklist, minor editorial change step 1 &amp; 2, RLEP consistency. Added note regarding injured personnel. RPL Drill Security 07-02 corrective action.</li> <li>• Pg 100, ICP Hazard Communicator checklist. Added several bullets for RLEP consistency. (NMM/lef)</li> </ul> CAT EX: RPL-2004-194D. FG Buck/USQE.
8/6/07	2007	<ul style="list-style-type: none"> <li>• Section 1.3, replaced RSEG ownership of the RPL with the Director of Nuclear Operations as senior line manager.</li> <li>• Updated Alternate ICP Communicator, Primary Responder/Chemical Assessor, 1<sup>st</sup> Alternate Staging Area Supervisor, and 2<sup>nd</sup> Alternate Staging Area Supervisor, and changed Zones 4 and 4A Zone Wardens per L. Arel. (lef)</li> <li>• CE: RPL-2004-194D. FG Buck/USQE</li> </ul>
9/17/07	2007	<ul style="list-style-type: none"> <li>• Page 65, change title of MSG Lead to MSG Liaison per RPL Bldg Managers office. (lef)</li> <li>• CE: RPL-2004-194D, FG Buck/USQE.</li> </ul>
10/29/07	2007	<ul style="list-style-type: none"> <li>• Replaced Francis Buck with Dan Wandler as BED per BM Durst.</li> <li>• New ICP Communicator 1<sup>st</sup> Alt: John Logan; ICP Communicator 2<sup>nd</sup> Alt- NONE.</li> <li>• New FOS 1<sup>st</sup> Alt: Dan Wandler and no FOS 2<sup>nd</sup> Alt.</li> <li>• CE: RPL-2004-194D DGW/USQE</li> </ul>
11/10/07	2007-2	Major revision consisting of: <ul style="list-style-type: none"> <li>• New signature page/approvers per LO Casazza.</li> <li>• Section 1.3, revised Owner/Operator to the new NOD organization manager.</li> <li>• Section 1.6, Deleted the word “High” from Glove Box Differential Pressure Alarm (Signal) box</li> <li>• Section 2.3, added references to aDM-001, Document Production &amp; Distribution for</li> </ul>

Date	Rev. #	Description
		<p>making minor and major revisions to this procedure.</p> <ul style="list-style-type: none"> <li>• Section 6.1.11, added new 3<sup>rd</sup> bullet “Zone Wardens for Zone 2 and Zone 8, activate flashing red warning lights.</li> <li>• Section 6.4.4, added new 3<sup>rd</sup> bullet: “Zone Wardens for Zone 2 and Zone 8 activate flashing red warning lights.”</li> <li>• Attachment 13.11, Deleted #5: Verify that the Zone 2 and Zone 8 Zone Wardens turned on the flashing red access warning lights identified in the Zone Warden Checklist”; renumbered remaining items in the checklist.</li> <li>• Attachment 13.12, #1, added “In the event of Reduced Ventilation or Take Cover...”</li> <li>• New BERO staff assignments: 1<sup>st</sup> Alternate Assisting Communicator: Bob Schumacher; 1<sup>st</sup> Alternate Facility Operations Specialist; John Logan.</li> <li>• New Zone Warden assignments: Zone 8 Secondary and Zone 9 Primary: Bob Schumacher. (lfa/lef)</li> <li>• CE: RPL-2004-194D. DGW</li> </ul>
6/13/2008	2008	<ul style="list-style-type: none"> <li>• Annual review.</li> <li>• Replaced the following checklists from PNL-MA-110: Attachment 13.10, Hazards Assessors; Attachment 13.15, Facility Operations Specialist; Attachment 13.17, ICP Hazards Communicator; and Attachment 13.14, MSG Checklist. Deleted Attachment 13.16, Hanford Emergency Notification Form.</li> <li>• Updated phone numbers for members of the BERO; Attachments 13.1, 13.5, and 13.7. (lef)</li> <li>• RPL-2008-120S. DGW</li> </ul>
9/25/08	2008	<ul style="list-style-type: none"> <li>• Updated signature page with new BED, NOD, and FSR signatures.</li> <li>• Multiple updates to the RPL BERO staff list.</li> <li>• Added PNNL Communicator Notification System to section 1.5.</li> <li>• Updated fire signal n Section 1.5 from gong/electric chime to Slow Whoop followed by voice message. (DGW/lef)</li> <li>• CE: RPL-2004-194D. DGW 9/16/08.</li> </ul>
12/1/08	2008	<ul style="list-style-type: none"> <li>• Replaced crash alarm system with the Telephone Notification System (TNS) and the Communicator Notification System (CNS) as appropriate.</li> <li>• Deleted crash alarm phone location on Attachment 12.5.</li> <li>• Updated maps from MIT.</li> <li>• Changed location of the ICP from 3760 bldg to 350 bldg and added new fax number for the 350 bldg ICP.</li> <li>• SES: RPL-2008-231S DGW/USQE</li> </ul>
12/11/08	2008	<ul style="list-style-type: none"> <li>• Section 1.0, updated WAC [WAC 173-303-350 (3)(d)] per HT Tilden.</li> <li>• Updated location of ICP in 350 building to Room 131. (cak)</li> <li>• Moved Section 6.10 Facility Take Cover to Section 7.0 for consistency throughout ALL BEPs and renumbered all subsequent sections and attachments as appropriate.</li> <li>• Updated BED checklist, #7: Brief hazard assessors and FOS on event and if practical deploy them to the event scene as soon as possible.</li> <li>• Updated BED Checklist #15, added new NOTE: If the location of the ICP has or will be changed call 375-2400 and assure the POC will be made aware of its new location. (lef/TLB)</li> </ul> <p>CE: RPL-2008-087D. USQE/DG Wandler 1/7/09.</p>
1/15/09	2008	<ul style="list-style-type: none"> <li>• Attachment 14.7, Added EOC phone numbers for 350 building: 372-0727, 372-0801 and fax 372-0723. (lef)</li> </ul> <p>CE: RPL-2008-087D. DGW/USQE 1/15/09</p>

Date	Rev. #	Description
6/10/09	2009	<p>DSA Update and BERO staff changes:            Approval changes: new Waste Operations signature: K McDowell</p> <ul style="list-style-type: none"> <li>• New Section 1.7 , “Deviations from Technical Safety Requirements”</li> <li>• Section 3.6: Deleted 90-day storage areas in rooms 44, 61, 603, and the East Storage Yard and <u>added</u> the Shielded Analytical Laboratory (SAL) Hot Cells as a new 90-day storage area.</li> <li>• Section 6.4 – moved NOTE from the top of Section 6.4 to the end of subsection 6.4.1.2: <i>If local audible alarm actuates as a result of a transient condition associated with a known work condition, then it is acceptable (as applicable) to attempt to manually reset the alarm or wait 10 seconds for the alarm to automatically reset before taking emergency actions. If the alarm lasts longer than 10 seconds or the direct cause of the alarm is unknown, then immediately perform emergency actions.</i></li> <li>• Section 9.2.1: Added 326 Building to the list of emergency decontamination facilities.</li> <li>• Section 12.2: The Emergency Action Levels (EALs) are considered Official Use Only (OUO) information have have been removed from the server, therefore, the EALs statement has been revised removing the weblink and directing staff to obtain copies of the EALs for RPL from the RPL Building Manager.</li> <li>• Attachments 13.5 and 13.7 – updated building maps identifying new locations of the 90-day storage areas.</li> <li>• Attachment 14.0 – per Emergency Preparedness office: deleted Management Support Group Checklist (old Attachment 14.14) – (this checklist is now a standalone procedure; see ADM-EPIP-7.2). Renumbered remaining Attachments in Attachment 14 – 14.14 is now Facility Operations Specialist – Checklisted Duties; 14.15 is Incident Command Post Hazards Communicator Checklisted Duties, and Attachment 14.16 is Emergency Closeout Checklisted Duties.</li> <li>• Attachment 14.1: New BED2 – Skip Kerschner. New ICP Communicators 1- Tony DeGuia, 2- Teresa Campbell, 3- Isadore Henderson. New Assisting Communicator: Kathy Rightmire. New Chemical Assessors: Kevin Sheffield and Abby Nicholson. ICP Hazards Communicator cell phone update</li> <li>• Attachment 14.4 : New BED2 HF Kerschner</li> <li>• Attachment 14.5: Rearranged the attachment to list the zone areas on top of the zone warden assignments. New Zone Wardens: Zone 2 Secondary - Jim Larsen; Zone 3 Secondary - Tim Smith; Zone 5 Primary – Lanson Oukrop; Zone 8 Primary – Jamin Trevino; Zone 9 Secondary – Kristie Lombardo.</li> <li>Attachment 14.7: New Safety &amp; Health Rep: Kevin Sheffield. New Waste Management TSD contact: Kip McDowell.</li> <li>• Updated Staging Area Map.</li> <li>• Attachment 14.16: Per the Emergency Preparedness office, reorganized table for better flow of information. (NMM/CAK/lef)</li> </ul>
6/10/09	2009	<p>Replaced 3 Emergency checklists per the Emergency Preparedness office: Attachment 14.4 – Facility Operations Specialist (FOS) Checklist, Attachment 14.8 – BED Hazardous Material Facilities (RPL) Checklist, and Attachment 14.16, (renamed) Event Closeout Form. (lef)            USQ: RPL-200</p>
6/15/09	2009	<p>Attachment 14.1, Per the Emergency Preparedness Office and the Department of Ecology, added “Environmental Support Contact” (regulatory notifications only) and the PNNL Operations Center phone number 375-2400. (lef)            CX: RPL-2008-087D</p>
1/11/10	2009	<p>Updated names and points of contact management personnel for the BERO. Deleted information Note regarding audible glove box alarms. (kl)            Updated Hanford Patrol Operations Center phone number from 373-3800 to 373-0911 per EP Office. (lef)</p>
5/24/10	2010	<p>Updated the 350 Bldg alternate ICP room number. Replaced references for SBMS with HDI. Added steps to fight fires in hot cells and gloveboxes. Updates to criticality alarm tests are now semiannual, not quarterly. Added alpha sentry cams to potential alarms. Updated emergency decontamination facility information. Corrected the location of the compressed</p>

Date	Rev. #	Description
		<p>air isolation. Added paging system information. Updated names and points of contact for BERO and standardized emergency telephone number list with the rest of the BEPs. Moved the emergency contacts to section 3.0 and added EOC Tech Reps Patello, Thornhill, and Steen. Section 4.1, added Mike Zabel as Primary Chemical Assessor, Doug Falk as 1<sup>st</sup> Alternate and Abby Nicholson as 2<sup>nd</sup> Alternate. Deleted zone warden list, moving it to RBAC. New Section 15.0 which lists all referenced documents and weblinks for emergency preparedness checklists.</p> <p>Section 4.1 – deleted MSG Recorder, Barb Ekstrom per EP Office.</p> <p>Per Environmental Managements’ request, section 11.4 has been revised to list the items in the spill kits.</p> <p>Section 8.1.2.2, Facility Take Cover event –inside RPL, added: Staff should refrain from eating and drinking during a take cover event if physically able, until an appropriate evaluation of the event can be made. (cak/tlb/lef)</p>
10/20/10	2010	<ul style="list-style-type: none"> <li>• Added the following Note in sections 6.1.1, 6.1.2, 6.2, 6.2.2, 6.2.3, 7.4, 6.5, 6.7, 6.8 and added it as a step in 6.9.2: If appropriate, classify the event using the RPL EALs.</li> <li>• Updated first floor and basement emergency equipment maps.</li> <li>• Merged Sections 3.0, Emergency Telephone Numbers and Section 4.0 Building Emergency Response Organization into one section/Section 3.0, Building Emergency Response Organization and adjusted section reference numbers throughout the document.</li> <li>• Replaced Kip McDowell with KM McDonald as Low Level TSD contact.</li> <li>• Deleted room 32 as TSD in section 3.19. (tlb/cak/lef)</li> </ul>
4/7/2011	2011	<ul style="list-style-type: none"> <li>• Updated emergency equipment and evacuation route maps.</li> <li>• Updated phone numbers due to VOIP system installation</li> <li>• Changed location of the decon shower to 3410.</li> <li>• Updated locations of TSDs and 90-day storage areas per EL Grohs.</li> <li>• Updated name for AMH to CSC Hanford Occupational Health Services (CSC HOHS).</li> <li>• Updated S&amp;H Rep from D. Falk to M. Zabel. (cak/lef)</li> </ul>
6/17/2011	2011a	<p>Update section 1.7 in accordance with revised wording in TSR AC 5.11.</p> <p>Added clarification notes in sections 6.1.1.4 and 10.2 that fire extinguishers with glove piercing tips are for HFD use only. (tac)</p>
8/15/11	2011b	<p>Updated BERO staff listing. Added 373-0911 to be dialed from cell phones and added Note about Becquerel conversion to dpm in Section 6.4. (CAK/lef)</p>

**Approval History for: BEP-325/RPL\_R2011b, Building Emergency Procedure for RPL**

**Final Process State: APPROVED**

Name	Activity Name	Date
✔ Bettendorf, Timm L	Review Concurrence 1	8/16/2011 1:47:46 PM
✔ Kooiker, Curt	Review Approval 1	8/16/2011 2:24:51 PM
✔ Campbell, Teresa A	Independent Review Chair Screener Approval	8/17/2011 8:10:18 AM

\* All actions are stored digitally and viewable at <https://approvals.pnl.gov/ProcessView.aspx?pid=735615>